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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application. of :	)	Attorney Docket No. 5634.243
	)	
HARVEY *et al.*	)	Confirmation No. 4663
	)	
Serial No.: 08/459,788	)	TC/A.U.: 2616
	)	Examiner: Andrew I. Faile
Filed: June 2, 1995	)	
	)	Customer No. 21967

For: SIGNAL PROCESSING APPARATUS AND METHODS

BEST AVAILABLE COPY

PETITION TO THE DIRECTOR UNDER 37 C.F.R. § 1.181

Mail Stop Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This petition is a request that the Director of Patents and Trademarks ("Director") exercise his supervisory authority by (1) exercising authority over the Examiner responsible for this application with respect to a Notice of Suspension mailed January 6, 2005, in the above-referenced patent application and other related applications, and (2) exercising authority over the Group Director responsible for supervising the Examiner assigned to the present application and other examiners in Technology Center 2600 assigned to examine other applications related to the present application having an identical disclosure to this application. Applicants make this request because of the PTO's failure to properly address these applications over their ten (10) year pendency. Petitions requesting similar relief are being simultaneously filed in U.S. Patent Application Serial Nos. 08/447,447; 08/472,066; 08/487,410; 08/487,411; and 08/488,383.

First, Applicants respectfully ask the Director to require the Examiner to rescind the Notices of Suspension in this and other related applications that share a parent disclosure under 35 U.S.C. § 120 ("Related Applications"), and order the immediate examination of this and the Related Applications. *See* Attachment 1 for list of related applications.

Second, Applicants request that the Director take the following actions:

1. Impose a schedule for the prompt examination of this application and the Related Applications.

2. Declare that this application and the Related Applications are "special," and treat them as such.

3. Assign new and objective primary Examiners to this and the Related Applications.

4. Establish a committee to supervise the examination of this and the Related Applications to ensure that the examination is conducted in accordance with an accelerated schedule.

5. Inform Applicants whether its applications are on the internal PTO Sensitive Application Warning System (SAWS) list and, if the applications are on the list, (a) remove the applications from the SAWS list; (b) explain why they were placed on the SAWS list; (c) explain the consequences/implications for being on the SAWS list; and (d) take immediate action to alleviate any negative or dilatory effects of having been placed on the list.

6. Identify any other special review procedures or lists that this and other related applications may be subject to that other "normal" patent applications are not subject to. If the applications are subjected to any such special review procedures or lists, (a) remove the applications from such special procedure/list; (b) explain why they were placed on such special procedure/list; (c) explain the consequences/implications for being on such special procedure/list; and (d) take immediate action to undo any negative or dilatory effects of having been subject to such special procedure/list.

The Notice of Suspension, its improper nature, and the PTO's unreasonable delays are described in detail below. It is believed that no fees are due for filing this Petition. However, the

Director is hereby authorized to charge all required fees, fees under 37 C.F.R. §1.17, or all required extension of time fees, to the undersigned's Deposit Account No. 50-0206. Under the provisions of 37 C.F.R. § 1.181(f), this petition is timely filed within two months from the Notice of Suspension mailed January 6, 2005.

I. Introduction

Applicants file this request following the PTO's repeated delays and improper actions in handling this application and Applicants' related applications. Although the Group Director purportedly is directly supervising this application and Applicants' related applications in an effort to expedite their consideration, the PTO's actions (and inaction) establish the opposite: they are not being considered on an expedited basis or even on a "normal" basis. Rather, the PTO has imposed repeated, improper delays during the past 10 years and future delays are expected absent immediate action.

The PTO has purposefully delayed prosecution of this application and the Related Applications at every turn, in direct violation of the Manual of Patent Examining Procedure's ("M.P.E.P.") mandate for examination under section 701. In response to each delay, Applicants diligently answered and complied with, or strenuously objected to when deemed necessary, each and every request and requirement from the PTO, regardless of how onerous. Applicants diligently sought to advance and accelerate the examination process by making every effort -- regardless of time, cost and manpower -- to meet the PTO's demands. Applicants have expended an extraordinary amount of resources -- including $2 million dollars in PTO fees alone -- thus far in responding to all of the PTO's improper delays. Applicants have an unwavering

commitment to the advancement, continued examination and eventual allowance of this and the other related applications, and have exhibited as much through their diligent and timely responses, comprehensive support, and a spirit of cooperation and compliance throughout the entire prosecution history. As made evident below, the PTO is solely responsible for the delay in examination of this and the Related Applications, through either its actions or, frequently, inaction. These applications have been pending for almost 10 years from the filing date of June 2, 1995, with an effective pendency of close to eighteen (18) years, based on the parent filing date of September 11, 1987. Attached are a chronology of the prosecution activities (Attachment 2) and a corresponding time line (Attachment 3).

The PTO purports to be dedicated to improving customer service and identifies reduction of pendency and quality of patents as primary objectives. But the PTO's own unwillingness to comply with its own rules and procedures led to this abhorrent situation. Accordingly, the Director must exercise his supervisory authority to correct this injustice, as further inaction and prejudicial delay undoubtedly will continue absent the Director's intervention. The Director should impose a schedule on the Examiner of this application and the other examiners handling Applicants' Related Applications to eliminate the repeated delays and the PTO's refusal to comply with its own rules and procedures.

With regard to the present application, no outstanding issues remain and, in Applicants' view, the application is in condition for allowance. The last Office Action, mailed September 5, 2002, contained no prior art rejections. The only substantive issues were directed to 35 U.S.C. § 112 rejections and allegations of lack of support. In response, Applicants provided extensive

support charts clearly demonstrating support in the parent application filed September 11, 1987 application and fully addressing all the PTO's concerns. In response to Applicants' response, the PTO has issued a letter suspending prosecution for six (6) months. The PTO has provided no legitimate basis for the suspension as discussed below. The suspension here is a clear example of the PTO's prejudicial and unfair conduct towards Applicants. Additionally, 15 other applications claiming priority to the parent application filed September 11, 1987 application are similarly ripe for final disposition.

II. The Prosecution Activities for This and Related Applications

Between March 1995 and June 1995, Applicants filed 328 United States patent applications. Each of these applications was a continuation application under then Rule 60 (37 C.F.R. §1.60) of U.S. Patent Application Serial No. 113,329, filed August 30, 1993, claiming the benefit of U.S. Patent Application Serial No. 317,510, filed November 3, 1981, in the name of Harvey and Cuddihy and entitled "Signal Processing Apparatus and Methods" (Harvey 1981 Application), through U.S. Patent Application, Serial No. 096,096, also entitled "Signal Processing Apparatus and Methods," filed on September 11, 1987 in the name of John C. Harvey and James W. Cuddihy (Harvey 1987 Application).[1] Applicants in good faith directed the claims in each Rule 60 application to distinct subject matter, as is described in greater detail below.

The present application was filed June 2, 1995 as a continuation application claiming the

[1] All applications were filed before the June 8, 1995, effective date of those provisions of the Uruguay Round Agreements Act, Pub. L. No. 103-465, § 532, 108 Stat. 4983 (1994), which modified the effective term of issued U.S. patents to 20 years from the earliest effective filing date for the application under 35 U.S.C. § 120.

benefit under 35 U.S.C. § 120 of the Harvey 1987 Application. The Harvey 1987 Application is a continuation-in-part application claiming the benefit under 35 U.S.C. § 120 of the Harvey 1981 Application. The present application claims, under 35 U.S.C. § 120, the benefit of the filing date of the Harvey 1987 Application. Seven United States patents have issued to date including either the disclosure of the Harvey 1981 Application or the Harvey 1987 Application.[2]

The PTO initially rejected the related applications based on improper double patenting type rejections.[3] The PTO also issued office action rejections based on Applicants' alleged failure to comply with 35 U.S.C. § 112 and § 120. Assignee, Personalized Media Communications, L.L.C. ("PMC"), diligently responded to each of the approximately 700 Office Actions mailed in the related applications and, in all respects, vigorously pursued the allowance of each application. Applicants were positioned to officially appeal the issues to the Board of Patent Appeals and Interferences. However, after receiving Applicants' Appeal Briefs, the PTO withdrew its double patenting rejections. By November 1998, nine applications were allowed, the issue fee was paid in six applications, and numerous other applications included claims

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[2] U.S. Patent No. 4,694,490; U.S. Patent No. 5,233,654; U.S. Patent No. 4,704,725; U.S. Patent No. 5,335,277; U.S. Patent No. 4,965,825; U.S. Patent No. 5,887,243; and U.S. Patent No. 5,109,414.

[3] The PTO applied *Schneller* double patenting rejections or "non-statutory type" double patenting rejections based on a judicially created doctrine grounded in public policy and primarily intended to prevent prolongation of the patent term by prohibiting claims in a second patent not patentably distinguishable from claims in a first patent. This type of double patenting rejection is rare and limited to particular facts of the case. *In re Schneller*, 397 F. 2d 350 (CCPA 1968).

directed to subject matter indicated to be allowable.[4] Nonetheless, despite the PTO's clear indication in 1998 that dozens of applications contained allowable subject matter, only one application issued (as U.S. Patent 5,887,243).

A. The PTO Asks PMC to Consolidate Its Pending Applications and Assures Expedited Examination

The PTO's massive restructuring in 1997-98 contributed significantly to a delay in examination of the 329 applications. During the restructuring, the PTO issued notices of six-month suspensions of examination in at least 212 of the 329 original applications. *See* Attachment 4.

At the same time, the PTO began to express difficulties in examining the number of related applications. On October 7, 1997, Examiner Andrew Faile, in an Interview with Thomas J. Scott, Jr. and Examiners David Harvey and Jason Chan, asked PMC to group the applications into related subject matter groupings, abandon some applications, or consolidate its applications so that claims concerning similar subject matter could be examined by a single examiner. PMC agreed to do so, in an effort to expedite prosecution of its pending applications. In an October 10, 1997 meeting between Mr. Scott, John C. Harvey, and Examiners Faile, Chan, and David Harvey, PMC gave the PTO (1) a brief description of 17 proposed subject matter groupings, and (2) a listing of the applications in those categories. John Harvey also advised the examiners of 52 additional detailed category groupings that could be provided to the PTO at a later date.

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[4] The issue fee was paid in applications 08/444,788; 08/447,415; 08/472,980; 08/480,060 08/488,438; and 08/484,858. A Notice of Allowance was also received in applications 08/438,216; 08/448,644; and 08/485,283.

On November 24, 1998, Examiner Faile asked counsel for PMC for more detailed information about the subject-matter categories for the pending 329 applications. Additionally, senior PTO management stated that further examination of Applicants' related applications would be expedited if the number of pending applications were reduced. Thus, Applicants agreed to consolidate the claims in all pending applications into just 56 subject matter groups.

On November 25, 1998, PMC met with Examiner Faile to discuss further proceedings on PMC's applications. PMC gave Examiner Faile a document entitled "Analysis of PMC Application Claims by Subject Matter Categories." See Attachment 5. The 56 subject matter groups in the document define the claims of the Applicants' applications based on the general subject matter to which the claims are addressed. Each PMC application has its own subject matter identification that defines the specific, distinct subject matter presented in that application. For organizational purposes, Applicants grouped the applications into general subject matter categories. For example, the general subject matter category "ADVT" is addressed to systems that present advertising at receiver sites, and the general category "ASIN" is addressed to systems for assembling information and instructions at a receiver site. Under these general subject matter categories, each application had a specific subject matter to which its claims were addressed.

Examiner Faile then asked that the claims in the various PMC applications in each of the 56 groups be consolidated further into one or two applications for each category. Examiner Faile also assured Applicants that no restriction requirements would be warranted or would issue as a result of combining different claims into one application. Examiner Faile stated that, after

resolving §112 and general double patenting issues for each group, any rejections on art or otherwise would then be resolved for that group by the responsible examiners and Applicants' representatives.

After the November 1998 interviews, Applicants gave Examiner Faile additional detailed information on the status of all of PMC's applications. In a final interview on prosecution procedures with Examiner Faile on February 25, 1999, the parties produced a flowchart to govern the "consolidation" of the various claims into a limited number of applications, as well as their examinations by PTO examiners. The flowchart on the consolidation process is attached to this Petition as Attachment 6. Examiner Faile stated that this consolidation of Applicants' groupings would *accelerate* the overall prosecution process. More specifically, the consolidation process was presented as a method of ensuring consistency where a few examiners would be familiar with the subject matter and would act quickly on these applications.

PMC agreed to the PTO-requested consolidation procedure to facilitate more rapid consideration of PMC's claims and more rapid issuance of PMC patents. PMC complied with the PTO's request to consolidate the pending applications because of the PTO's promises that doing so would expedite prosecution by helping examiners recognize the patentable demarcation between these related applications.

In meetings between the PTO and PMC representatives, the parties agreed to preserve certain applications in an active pending status. If, for some reason, PMC and the PTO were unable to reach an agreement as to the allowance of certain claims in the active applications, the

other pending application would provide a vehicle for appeal of those claims to the PTO Board of Patent Appeals and not delay issuance of the allowable claims.

As a result of these discussions, the PTO suspended prosecution of all pending PMC applications pending completion of consolidation. By March 2, 1999, PMC and the PTO agreed upon a consolidation method and schedule.

B. The Consolidation Agreement and Schedule

Under the consolidation agreement developed by the PTO and PMC, PMC's 329 pending applications were reduced to 79 primary applications (the "Primary Applications") and organized into 56 subject matter-based groupings. PMC also maintained 79 secondary applications (the "Secondary Applications") as pending and agreed to hold the Secondary Applications in abeyance awaiting the outcome of the prosecution of the Primary Applications. This process cost PMC more than $500,000 in new filing and other PTO fees, and more than $1 million in attorneys' fees.

Pursuant to the agreed-upon procedure, PMC began in Spring 1999 to consolidate its various applications, with assistance from Supervisory Examiner Faile, who used an Interview Summary Sheet to effect the consolidation. *See* Attachment 7. In each case, the surviving applications were amended to include all claims for a particular subject matter grouping and the other applications were either expressly abandoned or allowed to be abandoned by failure to respond to an outstanding PTO action.

In early Summer 1999, the PTO and Applicants' representatives compiled a priority list for the consideration of the various groups and an interview procedure for evaluation of

Applicants' applications. *See* Attachment 8. The PTO decided to assign a group of examiners under the general direction of Supervisory Examiner Faile, Art Group 2712, and Supervisory Examiner Tommy P. Chin, Art Group 2713, to follow the specified procedure of interviews so as to clarify any issues pursuant to 35 U.S.C. §112 or the relative art, and to generate Office Actions. During this process, numerous applications in which the PTO previously noted allowable subject matter or which the PTO previously indicated were allowable but for which issue fee documentation had not been mailed were consolidated in one or more of the 56 subject matter groupings so that the various claims could be evaluated and issued together under the PTO's new procedure.

The PTO and PMC agreed that each of the consolidated cases would be reviewed on its merits and that an Office Action would issue within 6 weeks after PMC completed the consolidation of that case. *See* Attachment 9. According to this process, the PTO and PMC would meet on "day 1" to discuss the claims to be consolidated into an application. After a series of interviews with examiners, PMC would consolidate the claims and file the required amendments to the affected applications by "day 29." The PTO would issue an Office Action on the consolidated application by "day 36." The PTO and PMC agreed that the PTO would not delay the review of a completed application until all 79 cases were fully consolidated. Additionally, the PTO was aware that 14 cases would not be amended during the consolidation process and could be reviewed immediately.

C. The Delays Begin

PMC began delivering the consolidation amendments to the PTO on March 4, 1999, just two days after the PTO and PMC agreed on the consolidation method and schedule. Shortly thereafter, though, the PTO refused to meet with PMC to continue the consolidation process. Nevertheless, PMC continued its efforts and, by June of that year, 37 cases were consolidated and ready for review on the merits. PMC finished the consolidation process for the remaining 42 cases by June 28, 2000, after a slight delay caused by the transfer of the pending cases from the law firm of Howrey & Simon to Hunton & Williams during 2000.

In Spring 1999, PMC believed that examination of the consolidated applications was progressing. However, by Summer of 1999[5], PMC was concerned that the PTO was not reviewing PMC's applications expeditiously as promised in the consolidation agreement and counsel for PMC met with Director Dwyer to communicate this concern. Indeed, the PTO waited until April 2000 to issue the first action on the merits of any of the 37 applications that were consolidated by June 1999. Additionally, while the PTO previously agreed that multiple teams of examiners would examine the 79 applications, the responsibility for examining all of the co-pending cases devolved on Examiner Luther. To make matters worse, Examiner Luther inexplicably refuted the existence of any consolidation agreement between the PTO and PMC. Examiner Luther later conceded that the PTO agreed to the consolidation process. Examiner

[5] Around this time, the PTO had indicated to Applicants that it intended to withdraw allowed applications. Applicants paid the issue fee in these allowed applications and firmly believed that withdrawal was improper. Applicants vigorously disputed the PTO's intentions, as detailed below.

Luther acknowledged the existence of the consolidation agreement, albeit while accusing PMC of delaying the consolidation. In the interview summary mailed June 8, 2000 (Attachment 10), Examiner Luther requests Applicants to finalize consolidation, although Applicants had completed this process by the time the Interview Summary was mailed.

Moreover, before the consolidation effort began in the Spring of 1999, the PTO issued notices of allowance for six (6) of PMC's related applications ("Allowed Applications"). PMC timely paid the issue fees and one application issued as a patent, U.S. Patent No. 5,887,243. The remaining five Allowed Applications were in condition to be issued as letters patent. In fact, one was assigned a patent number and issue date. The allowed applications were not to be subject to the consolidation process, as prosecution was closed in these applications. However, after PMC began the consolidation effort, the PTO changed its position, announcing that it intended to withdraw the remaining five Allowed Applications from issuance. The PTO also required PMC to consolidate claims from the Allowed Applications into the 79 consolidated cases. The PTO's action to withdraw allowed applications in which the issue fees were paid was completely inconsistent with PMC and the PTO's mutual understanding of the consolidation effort.

Applicants believed that the Allowed Applications should not have been withdrawn: 35 U.S.C. § 151 provides that, upon payment of the issue fee, "the patent shall issue." Thus, an application cannot be withdrawn from issue after payment of the issue fee consistent with 35 U.S.C. § 151 unless there has been a determination that a least one of the conditions specified at

37 C.F.R. § 1.313 (b)(1) through (4)[6] exist such that the applicant is no longer "entitled to a patent under law."

Additionally, while the consolidated examination process was a means to expedite prosecution, it was counterproductive to applications that already were allowed. These applications were already fully examined by independent examiners, who conducted thorough prior art searches. Based on the result of the searches and analysis, the claims in these applications were deemed to be allowable. No new issues were raised nor was any new prior art discovered and deemed relevant to the allowed claims. Instead, it was the PTO's desire to subject the already allowed applications to the consolidation process for reconsideration. M.P.E.P. § 1308 clearly states that an application should not be withdrawn from issue after payment of the issue fee at the Office's initiation merely "to permit the examiner to consider whether one or more claims are unpatentable." Thus, it was improper to include these Allowed Applications in the consolidation process for reconsideration and withdraw them from issue after payment of the issue fee.

The PTO and PMC held a series of interviews on this issue on June 16, 1999, July 1, 1999, and July 13, 1999. At these interviews, the examiners stated that the claims should not issue because one or more claims were unpatentable under either 35 U.S.C. §§ 102, 103 or 112, *i.e.*, not patentable over U.S. Patent No. 4,536,791 to John G. Campbell *et al.*, or not properly

[6] 35 U.S.C. 151 and 37 C.F.R. 1.313(b) do not authorize the PTO to withdraw an application from issue after payment of the issue fee for any reason except (1) mistake by the Office, (2) a violation of 37 C.F.R. 1.56, or illegality in the application, (3) unpatentability of one or more claims, or (4) for interference.

supported in the original Harvey 1981 or Harvey 1987 Application specifications as required by 35 U.S.C. §112. Director James L. Dwyer stated that the claims should be amended to address the Examiners' concerns, but failed to give Applicants any further details as to the specific basis for reversing the determination of allowability. In addition, Director Dwyer stated his preference for amending the claims and allowing the applications to issue rather than withdrawing the allowed applications.

Despite the PTO's failure to state specific grounds for the determinations of unpatentability, and in an effort to provide as much information as possible to the PTO so as to advance the prosecution, Applicants on August 5, 1999 submitted amendments under 37 C.F.R. §1.312 for certain of the Allowed Applications, making detailed arguments against their withdrawal. These submissions are attached to the Petition as Attachments 11-14. But, on November 4, 1999, Director Dwyer issued a letter withdrawing four of the Allowed Applications from issuance. The PTO did not provide any explanation for the withdrawal, stating only that the applications were withdrawn due to unpatentability of one or more of the claims and citing prior art that the Examiner already had considered. The PTO's notice stated that the withdrawn Allowed Applications would be forwarded to the examiner for prompt appropriate action, including notifying applicant of the new status of the withdrawn applications. A copy of this letter is attached to this Petition as Attachment 15. PMC has since abandoned these withdrawn Allowed Applications and their claims were consolidated into other pending applications.

However, one of these previously Allowed Applications remains pending, but was "missing." PMC paid the issue fee for Application No. 08/444,788 on November 19, 1998.

Inexplicably, though, the PTO claimed that it could not find this remaining case at the time Group Director Dwyer's letter was mailed. During a conversation with Applicants' representative on February 2002, Examiner Faile stated that this application was withdrawn from issue on June 8, 2000 and faxed Applicants the withdrawal notice on February 22, 2002, ***twenty months after*** it was drafted but ***never mailed or received*** by Applicants. Attachment 16. This was the first notice Applicants received that the PTO had "found" the application and withdrawn it from issue. The Notice of Withdrawal stated that application was to be "forwarded to the examiner for prompt appropriate action." No action was mailed until July 30, 2003. This application remains pending.

D. Examiner Luther's Further Delays

1. Examiner Luther's Administrative Requirement

In 1998, the PTO imposed a so-called "Administrative Requirement" that required Applicants to resolve potential double patenting issues between copending applications. The PTO stated non-compliance with this unprecedented requirement would result in the abandonment of Applicants' applications. In spite of all Applicants' efforts, the Examiner has refused to deal with Applicants in good faith. On January 7, 2000, Examiner Luther improperly re-imposed the Administrative Requirement on PMC's INTE claims. Around the same time, he imposed this Administrative Requirement also on the present application and other Related Applications. Examiner Luther's Administrative Requirement improperly compelled Applicants to either: (1) file a terminal disclaimer in all co-pending Related Applications, not just the instant application, without regard to the subject matter claimed therein; (2) provide an affidavit

attesting that no conflicts exist in any of the co-pending applications; or (3) resolve all conflicts in all of Applicants' co-pending applications by identifying how the claims in the instant application are distinct and separate inventions from all claims in all Applicants' co-pending applications.

In essence, Examiner Luther improperly sought to require Applicants to relieve him from his M.P.E.P.-mandated obligation to examine the applications for such conflicts. Incredibly, the Examiner based this requirement on the purportedly large number of co-pending claims. But, contrary to the Examiner's assertions, Applicants took every effort to ease any burden on the Examiner by consolidating claims of pending applications into subject matter groupings with common subject matter and submitting extensive documentation to assist the Examiner in analyzing and comparing the claims. PMC did this at the PTO's direction. Yet, despite all of Applicants' efforts, the Examiner imposed this improper Administrative Requirement as a condition of allowance: Applicants' failure to comply with this improper requirement would result in abandonment. The Examiner exceeded his authority and acted contrary to PTO rules and procedures.

Applicants addressed Examiner Luther's Administrative Requirement by submitting a comprehensive petition to the Commissioner under 37 C.F.R. § 1.181 ("the First 181 Petition") to invoke his supervisory authority over the Examiner, on March 2000. See Attachment 17. Demonstrating the PTO's propensity for delay, this petition requested expedited examination and prompt responses from the PTO, but was pending for more than three years with absolutely no action or even any acknowledgement from the PTO. Finally, in March 2002, about two years

after filing the First 181 Petition, PMC voluntarily withdrew it to advance prosecution. Attachment 18. The PTO, though, has failed to uphold its promises of prosecution advancement -- the very basis for Applicants' withdrawal of the First 181 Petition. It now is five years since the submission of the First 181 Petition requesting expedited and prompt examination and Applicants again make the same requests, now with a more egregious background of prosecution delays directly attributable to the PTO.

2. Examiner Luther's Notices of Non-Responsiveness and Notices of Abandonment

Around June 2000, the PTO issued 37 Notices of Non-Responsiveness for applications in which PMC filed responses to Office Actions from November 1997 through September 1999. Examiner Luther issued these notices despite Applicants' submission of comprehensive and thorough responses. For example, the PTO raised allegations of a lack of support under 35 U.S.C. § 112 by providing a litany of random terms from the claims. Applicants' responses refuted the allegations and addressed all of the Examiner's concerns. Applicants also submitted extensive charts clearly establishing proper support for all claim language. In each case, Applicants' response included arguments stating the specific reasons why the claims were patentable and further included a first chart showing (1) claim language, (2) citation to the '81 specification in column, line format, (3) actual language from the '81 specification; (4) citation to the '87 specification in column, line format, and (5) actual language from the '87 specification. A second chart was provided that showed where the '81 language was supported by the '87 specification, in response to the Examiner's contention that the '81 specification was

not carried forward into the '87 specification. Thus, Applicants' responses clearly showed a bona fide attempt to advance the application to final action and Examiner Luther's Notices of Non-Responsiveness were not warranted.

Procedurally, the Examiner's issuance of these improper notices made response and compliance impossible for Applicants. For example, in the Notices of Non-Responsiveness mailed June 8, 2000, Examiner Luther stated that Applicants' responses filed between November 1997 and September 1999 were not fully responsive because "applicants deliberately omitted identification of instant support for Section 112 rejections by, inter alia, identifying sentences, paragraphs and passages that do not exist in the instant disclosure." Thus, while admitting that PMC in fact filed responses addressing the 35 U.S.C. § 112 rejections raised in prior Office Actions, Examiner Luther apparently believed that certain sections, which he never identified, were missing. The Examiner further stated that, "[s]ince the period for reply has expired, the application will become abandoned unless applicant corrects the deficiency." Yet, the Examiner then stated that "the period for reply set forth in the prior Office action has expired" and limited Applicants' reply time to the "SIX (6) MONTH statutory period" based on the "date for reply set forth in an Office Action." The Examiner waited for between 9 and 31 months to address Applicants' responses, improperly concluding that they were non-responsive, and limited Applicants' response time to six months from the date of the Office Action had been mailed, all the while acknowledging that the response time had fully expired. The Examiner made any response to the Notice of Non-Responsiveness procedurally impossible.

The Notices of Non-Responsiveness were improper both procedurally and substantively. Under 37 C.F.R. § 1.111(b), in order to be entitled to reconsideration or further examination, the applicant must reply to the Office action. Non-compliance with this section is recognized as a general allegation without specifically pointing out how the language of the claims patentably distinguishes them from the references. That clearly did not occur here.

3. The "Luther Attachment"

In January 2001, Examiner Luther issued Notices of Non-Responsiveness in eight of the consolidated Primary Applications. At the same time, he issued Notices of Abandonment in 24 of the consolidated Secondary Applications.[7] In the first such case, PMC received the "Luther Attachment," which purportedly formed the basis of the Notices of Non-Responsiveness. The Luther Attachment is a diatribe[8] containing nothing more than a series of allegations of inequitable conduct, fraud, intentional misconduct and misrepresentation, and numerous other highly inflammatory statements. In the other cases, Examiner Luther attached a modified version of the Luther Attachment to the Notices of Non-Responsiveness. Both documents included a number of irrelevant exhibits, including Mr. Scott's Hunton & Williams website biography and pages from PMC's website.

Around March 2001, PMC received Notices of Non-Responsiveness in another 24

[7] Examiner Luther issued Notices of Abandonment in the Secondary Applications even though the PTO assured PMC, as part of the Consolidation Agreement, that it would hold the Secondary Applications in abeyance pending action on the Primary Applications.

[8] The Luther Attachment is close to 40 pages with over 575 pages of exhibits.

Primary Applications and 30 Secondary Applications, purportedly based upon PMC's alleged failure to respond to the PTO's improper Administrative Requirement (*see* above). These Notices of Non-Responsiveness did not contain allegations of misconduct. The PTO filed another 26 Notices of Non-Responsiveness containing allegations of misconduct in late August to early September 2001. These Notices of Non-Responsiveness included the modified Luther Attachment.

The Notices of Non-responsiveness failed to provide a proper reason for non-responsiveness, *i.e.* (a) amendment to claims fails to comply with 37 C.F.R. 1.121 which outlines the manner of making amendments; (b) the paper is unsigned; (c) the paper is signed by someone who is not of record; and (d) improper type of paper. Instead, Examiner Luther referred Applicants to his 550-page Luther Attachment, without articulating any coherent basis for non-responsiveness or, in other cases, basis for abandonment. The Notices of Abandonment suffered from the same defect.

The Luther Attachment is replete with allegations of every type of fraud and misconduct imaginable. Examiner Luther delivers all of this in a highly accusatory tone, with exaggerated fonts in mid-sentence for emphasis. The Luther Attachment's unfounded allegations are confrontational and highly inflammatory. Nothing in the Luther Attachment comes close in stating a valid reason for issuing the notices of non-responsiveness and abandonment. In fact, many statements are completely unrelated to the issues of non-responsiveness and abandonment. Moreover, Examiner Luther falsely accuses Applicants of misconduct. In addition, the Luther Attachment contains many irrelevant exhibits and references that serve no logical purpose. For

example, Examiner Luther makes a reference to Bill Clinton and Monica Lewinsky and attaches Mr. Scott's Hunton & Williams website biography, along with an amicus curae brief filed in an unrelated litigation.

It is important to note that ***none*** of the accusations of Applicants' misconduct have been proven and ***none*** are true. As baseless as these accusations were, Applicants nevertheless were forced to address the outrageous allegations made of record by Examiner Luther. As a result of additional time, effort and expense, the Luther Attachments which should never have been made of record were withdrawn. PMC's effort in addressing the PTO's improper actions imposed an enormous burden on Applicants. Further, such frivolous and baseless impediments cost Applicants valuable time and resources. More specifically, these applications have been pending for close to 10 years from the 1995 filing date, with an effective pendency of close to 18 years from the parent application. Applicants have spent millions of dollars in PTO fees, legal expenses and other associated costs.

4. PMC's Response to the PTO's Notices of Non-Responsiveness and Notices of Abandonment

In response to the 2001 Notices of Non-Responsiveness, PMC filed an Amendment and Reply asserting the responsiveness of the previous responses and supplying additional responses to any alleged deficiencies. In response to the 2001 Notices of Abandonment, PMC filed Petitions asking the Commissioner to invoke his supervisory authority under 37 C.F.R. § 1.181 (the "Second 181 Petition") to withdraw abandonment or, alternatively, to revive the applications as unintentionally abandoned.

By April 2002, withdrew the Notices of Non-Responsiveness and Abandonment, thus rendering the Luther Attachments legal nullities. See e.g. Attachment 19. Additionally, the Supervisory Examiner entered an Interview Summary in the files of each of the PMC applications that had received the Luther Attachment, acknowledging that the allegations made in and conclusions drawn from the Luther Attachment were unrelated to the issue of patentability and not made pursuant to a duty of the Examiner imposed by law. Since then, Examiner Luther has not appeared in any of Applicants' cases.

E. The Delays Continue

1. The PTO Improperly Applied the Priority Issue to Delay Prosecution and Deny Applicants A Proper Examination

Under the Consolidation Agreement, the PTO agreed to consider PMC's "INTE" and "MULT" claims before considering others. The INTE claims cover "methods of integrating remote with local processing and imaging", while the MULT claims cover "coordination of multi-channel/media and multi-media presentations." Various senior PTO management, and in particular, Director Dwyer, promised that the PTO would issue an office action in the INTE and MULT claims in early October 1999. Attachment 20. The PTO, though, failed to do so until July 2002.

On July 17 and July 30, 2002, the PTO issued Office Actions in INTE and MULT, respectively, rejecting the claims under 35 U.S.C. § 112, first and second paragraphs, making numerous prior art rejections, and disputing PMC's view of the relevant legal standards applicable to PMC's priority claim under 35 U.S.C. § 120. Specifically, the Examiner rejected

all claims under 35 U.S.C. § 112, first paragraph, as containing subject matter that was not sufficiently described in the specification. In making these rejections, though, the Examiner did nothing more than identify specific limitations pending in a given claim and state that "it [was] not clear where the disclosure as originally filed described the recited step/process . . . "

The rejections contained absolutely no analysis, reference or discussion of any of the teachings found in Applicants' specifications disclosing the various systems and methods for enabling a presentation of programming at subscriber stations. Instead, the Examiner simply quoted various passages from orders issued in litigation before the ITC involving certain of Applicants' issued patents, which characterized Applicants' 1987 specification as "difficult to understand." Because the Examiner failed to provide any reason or analysis as to *why* Applicants' claims were not sufficiently supported under 35 U.S.C. § 112, first paragraph, the Examiner failed to meet his burden to sustain such a rejection. The PTO waited over two (2) years to issue this Office Action which involved little, if any, thought or analysis. Clearly, the overriding intention has been to delay prosecution rather than address the claims on the merits.

The PTO continued to issue a blanket rejection of all the claims in all the applications by summarily concluding that Applicants are not entitled to the '81 filing date, even in applications that expressly claim priority to the '87 filing date. The PTO has required PMC to prove priority to the '81 filing date, even when no intervening art was applied to warrant such a showing. In fact, none of the claims were individually addressed.

Regardless of the impropriety of the PTO's position, Applicants submitted extensive support charts unequivocally establishing proper support from the '81 filing date. However, the PTO effectively ignored Applicant's clear proof and maintained the same baseless rejections.

An Examiner has the initial burden of presenting a prima facie case of unpatentability by:

> "[P]resenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims." . . . [T]he burden placed on the examiner varies, depending on what the applicant claims. If the applicant claims embodiments of the invention that are completely outside the scope of the specification, then the examiner or Board need only establish this fact to make out a prima facie case. If, on the other hand, the specification contains a description of the claimed invention, albeit not *in ipsis verbis* (in the identical words), then the examiner or Board, in order to meet the burden of proof, must provide reasons why one of ordinary skill in the art would not consider the description sufficient. Once the examiner or Board carries the burden of making out a prima facie case of unpatentability, "the burden of coming forward with evidence shifts to the applicant." . . . [to] show that the invention is adequately described to one skilled in the art.

In re Alton, 76 F.3d 1168, 1175 (Fed. Cir. 1996) (citations omitted).

As *Alton* makes clear, the Examiner's burden varies in making a valid rejection under § 112, first paragraph. In the Office Action, the Examiner failed to meet the most lenient burden described in *Alton*. The Examiner failed to establish (or even assert) that Applicants' claims or specific limitations in Applicants' claims were completely outside the scope of the specification; the Examiner simply identified specific claim limitations and requested "clarification."

In response, Applicants pointed out where in the specification the relevant disclosure supported the claimed subject matter. For example, Applicants repeatedly identified relevant

portions of the specification supporting concepts recited in currently pending independent claims. The Examiner never addressed why Applicants' specification support was insufficient to satisfy § 112, first paragraph. Accordingly, under the standard set forth in *Alton*, the Examiner failed to meet his burden to "provide reasons why one of ordinary skill in the art would not consider the description sufficient." *Alton*, 76 F.3d at 1175.

Notwithstanding the Examiner's failure to meet his burden for making a proper rejection of Applicants' pending claims under § 112, first paragraph, Applicants provided a chart (exemplary pages are attached as Attachment 21) identifying detailed written description support for each and every limitation of the pending claims. The support identified in Attachment 21, together with Applicants' discussion regarding how each claim is supported in Applicants' 1987 specification, clearly demonstrated that the claimed subject matter is described in the specification in such a way as to reasonably convey to one skilled in the art that applicants had possession of the claimed inventions. Rather than responding to Applicants' response, the PTO improperly issued the Notice of Suspension.

III. The Current Notices of Suspension are Improper and Baseless

The PTO mailed Notices of Suspension in 93 applications in January 2005. It appears that the PTO intends to suspend all prosecution in all pending applications, except for the INTE and MULT appeals.

Each of the Notices of Suspensions state as follows:

> The instant application has a specification that is identical to one or more patents that are currently under reexamination. The issues present in the reexamination proceedings are related to the issues

> in the instant application. The final decisions/determinations made at the end of the reexamination proceedings are likely to affect the outcome of the application. To this end, it is appropriate to suspend prosecution on the instant application.
>
> Per applicant's request, however, prosecution in 08/470,571 (INTE) and 08/487,526 (MULT) will not be suspended in order to pursue the issues that have been fully developed in these applications. The outcome of these issues are also likely to affect the outcome of the present application.

Thus, the PTO suspended the applications (1) because a patent with the same specification is under reexamination[9] and (2) the INTE and MULT appeals may affect the outcome of the current applications.

In an teleconference with Applicants' representative, Examiner Faile first raised the possible suspension of prosecution on August 15, 2002. On August 7, 2003, Applicants' representative, Joseph Guiliano, sent a detailed email to Examiner Faile explaining why suspension would be improper and highly prejudicial. Attachment 22. After months of inactivity from the PTO, PMC contacted Examiner Faile on November 3, 2003 regarding the PTO's possible suspension, but failed to receive a response. PMC again emailed Examiner Faile on November 20, 2003 and February 12, 2004, but again received no response from the PTO.

PMC did, though, receive a draft notice of suspension that the PTO mistakenly mailed to Applicants. The draft notice of suspension indicates that, in July 2003, Examiner Faile had drafted at least one notice of suspension. Thus, it appears that as early as July 2003, the PTO already had contemplated or even decided to suspend prosecution, but waited until January 2005

[9] Applicants' seven issued patents have been under reexamination since 2003.

to finally officially mail the notices of suspension. Due to the PTO's delay and inaction, prosecution effectively was suspended during the PTO's decision-making period between July 2003 and January 2005. Now, the PTO is improperly suspending prosecution "officially" for an additional six months.

The PTO's reasons for suspension lack foundation and amount to nothing more than yet another improper delay contrary to law and prejudicial to Applicants. Because of the ensuing delay and increased pendency, the M.P.E.P. permits Office-initiated suspensions in only two instances: (1) when the PTO is awaiting a new reference under ¶ 7.52 and (2) once claims are deemed allowable, when possible interference is detected under ¶ 7.53. Neither situation applies here.

The fact that the current applications have the same specification as a patent currently under reexamination does not present such an extraordinary circumstance. In a reexamination proceeding, the claims are at issue, not the entire specification. A reexamination proceeding is directed to examination of ***any claim*** of the patent on the basis of prior art patents or printed publications. 35 U.S.C. § 301, 37 C.F.R. § 1.501. While certain prior art may be relevant to a certain claim, it does not necessarily follow that the same prior art is relevant to an entirely different claim of a separate application, regardless of whether the specifications are the same. Additionally, a request for reexamination requires that a substantial new question of patentability exist with regard to at least one patent claim. M.P.E.P. § 2209. Thus, reexamination proceedings are directed to the claims and questions of patentability affecting a claim, not the specification in its entirety. As clearly articulated in M.P.E.P. § 2258, claims in a reexamination

proceeding will be examined on the basis of patents or printed publications where any issues under 35 U.S.C. § 112 are limited to subject matter added or deleted in the reexamination proceeding. Thus, the fact that the current applications have the same specification as a patent currently under reexamination does not present an "extraordinary circumstance."

Moreover, while the claims here share a common specification with a patent under reexamination, the claims under reexamination are different from the claims pending in the patent applications. Similarly, as illustrated by the second exemplary instance justifying suspension under M.P.E.P. § 709, once claims are deemed allowable, a potential interference may be detected, thereby requiring a comparison of the ***claimed*** invention, not the specification. And, such a suspension is initiated at allowance. As the claims in this application are still pending and theoretically subject to possible claim amendments, it is unfair to hold Applicants strictly to the claims. The patent under reexamination addresses distinct inventions defined by its claims and has no bearing on the claimed subject matter of the pending applications, regardless of whether a common specification is shared. Obviously, the PTO recognizes that a single specification may support different claims to different inventions. Therefore, the PTO's reason for suspension is contrary to its own policies and mandates.

The fact that the INTE and MULT claims are under appeal also does not raise an "extraordinary circumstance." The issues concerning the INTE and MULT appeal are directed to different subject matters. While the PTO indicated that priority issues would be resolved in INTE and MULT, this application and other Related Applications claim priority to the '87 filing date, which does not form the basis of any priority issue raised by the PTO. Therefore, the INTE

and MULT appeals have no bearing on the current application and other Related Applications. Again, suspension is improper and any allegation that the decisions are "likely to affect the outcome of the application" is completely baseless. The PTO fails to properly identify an "extraordinary circumstance" and articulate any valid reason for a subsequent suspension.

The PTO fails to identify a proper grounds for suspension. Its actions are contrary to the M.P.E.P.'s statutory mandate for examination. Under 37 C.F.R. § 131 and M.P.E.P. § 701, the Director shall cause an examination to be made of the application and the alleged new invention, and if on such examination it appears that the applicant is entitled to a patent under the law, the Director shall issue a patent therefor. Further, under 35 U.S.C. § 132, on examination, when any claim for a patent is rejected, the Director shall state the reasons for such rejection. By suspending the applications for no reason, the PTO is in direct violation of its statutory mandates.

IV. Applicants' Patent Applications are Unfairly Targeted

In March 2000, the PTO implemented a second review program for all allowed business method applications and now utilizes a Sensitive Application Warning System ("SAWS") to identify and monitor patent applications that may have a significant impact on the marketplace.[10] SAWS uses an internal flag for potentially controversial patent applications, which is applied to the PTO's docketing system. The Applicant is not informed that his/her application has been

[10] Kim, Chua Siak, Wee Swee Teow & Co, *Patenting Business Methods*, Endnote 6, October 2001 (www.lawgazette.com.sg/2001-10/Oct01-focus2.htm).

flagged for special attention. It appears that SAWS is implemented Office wide, and not limited to business method applications in Class 705.

Applicants are concerned that this internal flag was applied to all of PMC's pending applications and currently is being used as yet another basis to detrimentally delay prosecution.

V. The Pending Applications are Entitled to Special Status and Should be Treated Accordingly

The present application was filed June 6, 1995 and claims priority under 35 U.S.C. § 120 to an application filed on September 11, 1987. Section 708.01(i) of the M.P.E.P. designates such an application as a "special case", requiring that it be taken out of turn. Under M.P.E.P. § 707.02, any application that has been pending five years should be carefully studied by the supervisory patent examiner and every effort should be made to complete its prosecution. To accomplish this result, the application must be considered "special."

Each of Applicants' 111[11] related co-pending applications has an effective pendency of well over five years and, thus, must be treated as "special" under M.P.E.P. §§ 708.01(i) and 707.02. In fact, though, the PTO has delayed action on these applications, contrary to the M.P.E.P.'s mandate. The record in this application, as demonstrated above, includes no indication that anyone exercising authority at the PTO has ever considered the present application or any related application to be "special" and treated it accordingly. To the contrary, the Examiners responsible for these applications have delayed all actions regarding this

[11] There originally were 328 pending applications. After consolidation and abandonment of some applications, there now are 111 pending applications.

application and Applicants' Related Applications. These delays are inexcusable and contrary to the PTO's own rules and procedures regarding the handling of "special" cases. The delays are directly attributable to the PTO; Applicants have diligently sought to advance and accelerate the examination process.

Therefore, the Director must exercise his supervisory authority to correct this situation. The Director should impose an aggressive schedule on the Examiner of this application and the other examiners handling Applicants' Related Applications. The present pattern of delay and prejudicial harm must be corrected.

The PTO continues to delay the advancement of this and other related applications. In fact, the Examiners have acted at every turn, to cause further delays and effectively deny the granting of the patents that Applicants deserve. As the PTO has essentially run out of reasons, it now resorts to imposing baseless suspensions across the board. The PTO's delays must be stopped and prosecution of the applications allowed to proceed. To ensure compliance and immediate action, Applicants respectfully seek the following:

1. Applicants request that the suspensions in this and the Related Applications be rescinded. The Examiner exceeded the scope of his authority in improperly suspending prosecution on this and the Related Applications. This suspension is contrary to the Patent Act, and the PTO's rules and regulations.

2. Applicants request prompt examination according to a schedule resuming prosecution at an accelerated pace. By rescinding the notices of suspension and nothing more, Applicants have no assurance that the Examiners will not continue to delay examination by

simply refusing to respond in a timely manner. Therefore, a schedule is necessary to ensure timely responses and immediate action. Applicants respectfully ask the Director to impose a schedule on the examiners, supervised by the Director, expediting the examination of this application and the Related Applications. Although Applicants have provided comprehensive submissions to assist the examiners in comparing and analyzing the claims, the examiners have continued to neglect the examination of these applications resulting in compounded delays and severe harm to the Assignee.

More specifically, Applicants respectfully petition the Director to impose a schedule on the examiners responsible for this and related applications, including the Group Director, who has overall supervisory authority over the examiners and supervisory examiners responsible for this and the Related Applications. Applicants urge the Director to require the examiners responsible for each active application to resume examination and issue an Office Action or notice of allowance, as deemed appropriate, within thirty days of the Director's grant of this petition and to respond to each subsequent amendment or response within thirty days after its filing with the Patent and Trademark Office (PTO). Such a schedule would impose a reasonable time limit prohibiting further delay in examination of this application and the Related Applications.

3. Applicants request that this and the Related Applications be declared "special" and treated as such. Under M.P.E.P. § 707.02, any application pending more than five years should be carefully studied by the supervisory patent examiner and every effort should be made to terminate its prosecution. Each of Applicants' 109 related co-pending applications has an

effective pendency of well more than five years and, thus, must be declared and treated as "special cases" under M.P.E.P. §§ 708.01(i) and 707.02.

4. Applicants request that new, objective, unbiased and competent primary Examiners be assigned to this and the Related Applications. As discussed in detail above, Applicants have lost valuable years due to the prejudicial statements and delays of biased Examiners, namely Examiner Luther, who issued the Luther Attachment with an intent to severely disadvantage Applicants by making false allegations and fabrications of record in the file history. Expunging the record of the outrageous Luther Attachment is only the start, the PTO should order objective, unbiased and competent primary Examiners to properly conduct examination of this and other related pending applications according to proper examination procedures.

5. Applicants request that the PTO establish a committee to supervise examination to ensure that proper examination is conducted in accordance with a schedule to ensure prompt and accelerated examination. A committee is necessary in this extreme circumstance to ensure examination is progressing in an expedited manner. Further, a supervisory committee is needed to prevent additional baseless delays from being imposed against Applicants. As evident by the extensive prosecution history, each delay - regardless of how frivolous or baseless - has been thoroughly addressed by Applicants. The Director should note that each delay in whatever format has been essentially withdrawn by the PTO, thereby effectively becoming an admission of the impropriety of the PTO's actions. This inappropriate treatment could go on for additional years, unless the Director invokes his supervisory authority and orders a committee to ensure

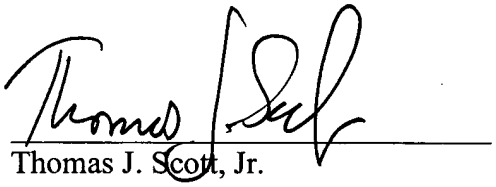
proper and expeditious examination. As proven over the past years, now decade, the PTO has failed to honor the promises, agreements and assurances made to Applicants. In some instances, the existence of mutually agreed upon procedures were flat out denied by the PTO, only to be reneged afterwards. The PTO has delayed the examination of this and the Related Applications for far too long. Immediate action is earnestly requested.

6. Applicants request that (1) that the PTO inform Applicants whether its applications are on the SAWS list; and (2) if the applications are on the list, that the PTO: (a) take the applications off of the SAWS list; (b) provide an explanation as to why they were placed on the SAWS list; (c) explain what the consequences/implications were for being on the list; and (d) take immediate action to alleviate any negative or dilatory effects of having been placed on the list.

7. Applicants request that the PTO identify any other special review procedures or lists that this and the Related Applications may be subject to that other "normal" patent applications are not subject to, and with respect to any such procedure or list. If the applications are any such list, Applicants demand that the PTO: (a) take the applications off of such special procedure/list; (b) provide an explanation as to why they were placed on such special procedure/list; (c) explain what the consequences/implications were for being on such special procedure/list; and (d) take immediate action to undo any negative or dilatory effects of having been subject to such special procedure/list.

Respectfully submitted,

HUNTON & WILLIAMS LLP

By: 

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Attachments

1. List of related applications with similar priority claims in which Letters of Suspension have been mailed.

2. Chronology of Prosecution Activities

3. Time Line of Prosecution Activities

4. Example Initial Notice of Suspension

5. Analysis of PMC Application Claims By Subject Matter Categories.

6. Flowchart of Consolidation Process.

7. Template Interview Summary Attachment to Effect Consolidation.

8. Priority List for Patent and Trademark Office Consideration of Subject Matter Groups

9. Interview Procedure Flowchart.

10. June 8, 2000, Interview Summary.

11. Request to Enter Amendment After Notice of Allowance and After Payment of Issue Fee Under 37 C.F.R. § 1.312(A) for Application 08/447,415.

12. Request to Consider Amendment After Notice of Allowance and After Payment of Issue Fee Under 37 C.F.R. § 1.312(A) for Application 08/488,438.

13. Request to Enter Amendment After Notice of Allowance and After Payment of Issue Fee Under 37 C.F.R. § 1.312(A) for Application 08/484,858.

11. Request to Enter Amendment After Notice of Allowance and After Payment of Issue Fee Under 37 C.F.R. § 1.312(A) for Application 08/447,415.

14. Request to Enter Amendment After Notice of Allowance and After Payment of Issue Fee Under 37 C.F.R. § 1.312(A) for Application 08/472,980.

15. Notice of Withdrawal From Issue of Applications 08/484,858; 08/488,438; 08/472,980; and 08/447,415.

16. Notice of Withdrawal From Issue of Application No. 08/444,788

17. Petition to the Commissioner Under 37 C.F.R. § 1.181 Filed March 7, 2000.

18. Withdrawal of Petition Under 37 C.F.R. § 1.181 Filed March 7, 2000.

19. Example Interview Summary Withdrawing Notice of Nonresponsiveness in Application 08/435,757.

20. E-mail Correspondence Regarding Time of Issuance of INTE and MULT Office Actions.

21. Exemplary Support Charts.

22. August, 2003, Email Between Examiner Faile and Applicants' Representative, Joseph Guiliiano, Regarding Proposed Suspension of Applications.

Related applications with similar priority claims in which Letters of Suspension have been mailed:

08/444,758
08/445,328
08/446,553
08/447,447
08/447,496
08/447,712
08/447,908
08/448,251
08/449,097
08/459,521
08/459,522
08/459,788
08/460,711
08/460,770
08/460,817
08/472,066
08/474,145
08/477,547
08/479,215
08/479,374
08/480,392
08/482,857
08/483,169
08/487,397
08/487,410
08/487,411
08/488,383

PMC Prosecution Chronology

11/3/81 - U.S. Patent App. Ser. No. 317,510, original filing with 44 pages.

9/11/87 - U.S. Patent App. Ser. No. 096,096, CIP filing, with expanded disclosure.

6/2/95 - U.S. Patent App. Ser. No. 08/459,788 filed; between 3/2/95 and 6/7/95 - 328 applications claiming priority to '81 or '87 filing were filed by PMC.

6/8/95 - Rule Change - GATT patent law provisions.

Between 6/95 and 11/98 - PTO issues over approximately 700 office actions; mainly double patenting rejections (*In re Schneller*).

3/24/97 - PTO issues first office action in instant application.

8/13/97 - Ex. Faile suspends prosecution "to allow Office to consider the complex issues surrounding the numerous related applications."

9/24/97 - PMC files response in instant application.

10/7/97 - PMC & PTO meeting; PTO requests PMC to group applications into related subject matter groupings.

10/10/97 - PMC & PTO meeting; PMC provides PTO with subject matter groupings.

12/31/97 - PTO issues final office action in instant application.

3/2/98 - PMC files amendment after final rejection in instant application.

3/23/98 - PTO issues advisory action in instant application.

6/25/98 - PMC files notice of appeal in instant application.

By 11/98 - 9 applications allowed; issue fee paid in 6 applications; one application is lost; notice of allowance received in 16 applications; and allowable subject matter in 16 applications.

11/24/98 - PTO informs PMC that prosecution will be streamlined; Ex. Faile requests PMC for more detailed information re: breakdown of subject matter categories for 328 applications.

11/25/98 - PMC & PTO meeting for consolidation; PMC provides Ex. Faile subject matter categories in document entitled "Analysis of PMC Application Claims by Subject Matter Categories"; Ex. Faile requests PMC to consolidate 328 applications into 56 subject matter groups (with one or two applications in each group); Ex. Faile indicates to PMC that PTO's desire is to select related categories and interview selected applications collectively to resolve all

112 issues in each application; prosecution of all pending PMC applications is suspended, pending completion of consolidation.

1997-1998 - PTO restructuring contributed significantly to prosecution delay; PTO issues 6 month suspensions of examination in at least 212 of 328 original applications.

1998 - PTO imposes Administrative Requirement in Office Actions.

2/25/99 - PMC provides Ex. Faile with flowcharts for consolidation.

3/2/99 - PMC & PTO agree on consolidation meeting and schedule.

3/4/99 - PMC begins delivering consolidation amendments.

By 6/99 - 37 of 79 groupings to be consolidated are ready for PTO examination.

Summer/99 - PMC & PTO set up priority list for consideration of various groups and interview procedures for evaluation of applications; primary and secondary structure proposed and accepted; Dir. Dwyer promises OA in INTE (08/471,571) and MULT (08/487,526) in early 10/99; PTO evaluates whether to withdraw 4 of 5 applications that PMC paid issue fee.

6/99 - 7/99 - PMC & PTO interviews re: withdrawal of allowance in applications that PMC paid issue fee; PMC & PTO discuss issue re: PTO's desire to fold allowed applications into consolidation process.

8/5/99 - PMC submits amendment and reasons against withdrawal.

10/19/99 - OA in INTE is incomplete.

11/4/99 - PTO withdraws 4 allowed applications that PMC paid issue fee; no explanation, only statement as to unpatentability of one or more claims and cites to prior art already considered by Examiner; one allowed application with issue fee paid 11/19/98 is purportedly lost.

1/7/00 - PTO re-imposes Administrative Requirement; PTO reissues OA in INTE, because previous OA in 10/19/99 was incomplete.

1/14/00 - PTO issues OA in MULT (3 months after it was promised); no other OAs in other subject matter groupings.

3/00 - PTO implements SAWS.

3/7/00 - PMC submits 181 petition in response to Administrative Requirement mailed 1/7/00.

4/00 - PTO waits to issue OA when applications were consolidated and ready for examination since June 1999.

6/7/00 - Ex. Luther acknowledges consolidation agreement and accuses PMC of delaying the process.

6/8/00 - PTO issues 37 notices of non-responsiveness for OA mailed 5/98, limits response time to 6 months from OA - procedurally impossible for PMC to respond.

6/28/00 - PMC finishes consolidating remaining 42 applications; each of 79 applications are ready for examination on the merits.

1/01 - PTO issues notices of non-responsiveness in 8 consolidated primary applications;
- Ex. Luther includes Luther Attachment;
- PTO issues notices of abandonment in 24 consolidated secondary applications;
- Ex. Luther is removed.

3/01 - PMC submits 181 petition in response to 1/01 notices of abandonment to revive applications.

3/01 - PTO issues notices of non-responsiveness in 24 primary applications and 30 secondary applications based on PMC's alleged failure to respond to Administrative Requirement (181 petition filed 3/7/00 but no PTO response).

3/21/01 - PTO issues notice of non-responsiveness in instant application.

8/01- 9/01 - PTO issues notices of non-responsiveness in 24 primary applications, 3 secondary applications and in 1 abandoned application.

8/21/01 - PMC responds to notice of non-responsiveness in instant application.

9/01 - PMC & PTO interview re: priority issue (PMC's ability to claim priority to '81 specification); PTO requests additional support for '87 spec; PMC agrees to withdraw 181 petition if PMC receives written acknowledgement of responsiveness of PMC's most recent responses; PMC agrees to file terminal disclaimers.

1/02 - 2/02 - PMC submits responses to OA in INTE and MULT.

2/02 - PTO faxed withdrawal notice issued on 6/8/00 for "missing" application in which PMC paid the issue fee.

3/02 - PMC voluntarily withdraws First 181 Petition submitted 3/00; PTO withdraws notices of non-responsiveness to Administrative Requirement; PMC agrees to comply at allowance.

3/21/02 - PMC & PTO interview re: Luther Attachment.

4/02 - PMC petitions granted; PTO vacates notices of abandonment.

6/19/02 - PTO withdraws notice of non-responsiveness in instant application.

7/17/02 - 7/30/02 - PTO issues OAs in INTE and MULT; raises priority issue (PTO originally promised to issue OAs in early 10/99); OA rejected claims under 35 USC 112, first and second paragraphs; made prior art rejections and disputed PMC's view regarding relevant standards applicable to PMC's priority claim under 35 USC 120.

8/15/02 - teleconference w/ Guiliano & Ex. Faile re: possible suspension.

9/5/02 - PTO issues non-final office action in instant application.

1/03 - 3/03 - PMC submits responses in INTE and MULT; includes declarations by expert, Dr. George Ligler in which Dr. Ligler stated his opinion that each of pending claims in INTE and MULT was supported by both '81 and '87 specifications.

2/03 - 6/03 - PMC submits new support charts for 16 of 31 '87 applications.

3/5/03 - PMC submits response in instant application.

4/10/03 - PTO grants 1st re-exam request;
5/14/03 - PTO grants re-exam in '277 patent;
7/9/03 - PTO grants re-exam in '654 patent;
9/10/03 - PTO grants re-exam in '277 patent;
9/26/03 - PTO grants re-exam in '654 patent;
1/04 - last of 11 third party re-exam requests granted.

8/7/03 - PMC (J. Guiliano) email to PTO (Ex. Faile) re: PTO proposal to suspend examination; PMC provides arguments against suspension.

11/3/03 - PMC leaves voicemail for Ex. Faile re: PTO's proposal to suspend; no response from PTO.

11/03 - PTO raises issue of proper format for scanning references, after PTO requests electronic version, now considering paper copies.

11/20/03 - PMC emails Ex. Faile re: PTO's lack of response; no response from PTO.

2/12/04 - PMC emails Ex. Faile re: PTO's lack of response; no response from PTO.

1/05 - PTO issues notices of suspension in 93 of 111 pending applications; 16 '87 applications are ripe for final disposition.

1/6/05 - PTO issues notice of suspension in instant application.

1/14/05 - PTO requests paper copies of prior art cited in IDS for re-examination proceedings; Ex. Harvey indicates that PTO will contact PMC regarding details of logistics of delivering paper copies.

2/14/05 - PMC submits paper copies of references requested by PTO for re-examination proceedings.

3/7/05 - PMC submits 181 Petition.

TJS/JJK

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/488,383	06/07/95	HARVEY J	5634.166

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Please find below and/or attached an Office communication concerning this application or proceeding.

05634-0166
DOCKETED
Examiner Inquiry
5/12/98

Commissioner of Patents and Trademarks

1. *Ex parte* prosecution is SUSPENDED FOR A PERIOD OF 6 MONTHS from the date of this letter to allow the Office to consider the complex issues surrounding the numerous related applications. Upon expiration of the period of suspension, applicant should make an inquiry as to the status of the application.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Faile whose telephone number is (703) 305-4380.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

AIF:aif
August 13, 1997

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
GROUP 2600

ANALYSIS OF PMC APPLICATION CLAIMS BY SUBJECT MATTER CATEGORIES

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Subject Matter Category Descriptions ..... A

Applications listed by Serial Number ..... B

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Applications listed by Subject Matter Category ..... D

CATEGORY	SUBJECT MATTER
ADVT	presenting advertising
ASIN	assembling information and instructions at a receiver station
ASRE	assembling records at a receiver station
BCON	broadcast routing and control of a receiver station
BUDG	presenting budget information
CHAN	processing of transmission channels that vary in composition/location, etc.
CLER	management of receiver station memory (clearing etc.) based on a broadcast
COMB	systems for combined control of transmitter and subscriber stations
DATA	moving and storing data and programming in a network
DIGI	digital television signal processing
DECR	relates to decryption of broadcast information
DOWN	relates to downloadable code and processor instructions
EMBD	control of embedding
ERRO	error correction
FANA	presenting financial analyses
FCOM	financial communications
FNAV	navigation to (*e.g.*, finding) financial information
FNET	financial network automation
HEAD	headend and network node automation
HOST	host computer provision of information
I2CM	instruct-to combine systems
I2CR	instruct-to coordinate systems
I2GE	instruct-to generate systems
I2GR	instruct-to graphics systems
I2RE	instruct-to response systems
INTE	integrating remote with local processing and imaging
METE	metering
MICR	microprocessing control functionalities
MKTR	market research systems
MSTA	media station control (*e.g.*, multimedia)
MSG	messaging systems
MULT	coordination of multi-channel, multimedia, multiple media
NAUT	network automation
NAVI	navigation to desired programming and signals
NCOM	certain networked communications functions
NECA	networked programming distribution capacities
NGEN	networked generation of information
OPNS	operating and programming systems
PARA	parallel and in-network processing systems
POLI	policy communications systems and presenting plans
PROB	solving problems and presenting solutions
RECO	presenting (and explaining) recommendations
REST	restoring efficient operations
RCOM	certain combinations of receiver station functionalities including in-network studio operations
SETT	in-set (*e.g.*, converters/TVs) transmission receiver functionalities
SKIP	skipping incomplete image(s) etc.
STUD	studio operations (*e.g.*, organizing and recording programming for playback)
SWIT	switching between broadcast and cablecast transmissions
SYNC	synchronization and coordination systems
TELE	networked presentation and response (*e.g.*, by telecommunication/telephone) systems
TIME	receiver station processor timing control systems
TRAN	transmission station systems
VERI	verification (*e.g.*, of proper performance)
VIEW	systems for viewer interactivity

Serial No.	Case No.	Group	Priority
	091	unused	81
	168	unused	87
	193	unused	81
	194	unused	81
	198	unused	81
113,329	008	HEAD	81
397,371	017	TRAN	81
397,582	010	BCON	81
397,636	012	DATA	81
435,757	036	DIGI	81
435,758	041	HOST	81
437,044	047	MULT	81
437,045	042	I2CM	81
437,629	044	I2CR	81
437,635	045	I2GR	81
437,791	040	HOST	81
437,819	049	PARA	81
437,864	038	FNAV	81
437,887	037	DIGI	81
437,937	048	NAUT	81
438,011	050	PARA	87
438,206	039	HOST	81
438,216	046	MSTA	81
438,659	043	I2GE	81
439,668	062	MKTR	81
439,670	081	DATA	81
440,657	051	ASRE	81
440,837	059	BCON	81
441,027	053	ASRE	81
441,033	060	BCON	81
441,575	056	BCON	81
441,577	080	I2GR	81
441,701	052	ASRE	81
441,749	082	DATA	81
441,821	085	DATA	81
441,880	075	FCOM	81
441,942	061	NAVI	81
441,996	086	DATA	81
442,165	087	HEAD	81
442,327	083	DATA	81
442,335	088	HEAD	81
442,369	055	BCON	81
442,383	074	OPNS	81

Serial No.	Case No.	Group	Priority
442,505	084	DATA	81
442,507	089	HEAD	81
444,756	107	FNAV	81
444,757	103	TRAN	87
444,758	114	NAUT	87
444,781	110	TRAN	87
444,781	111	TRAN	87
444,786	100	ASCO	87
444,787	118	POLI	87
444,788	109	TRAN	87
444,887	115	NAUT	87
445,045	108	FNAV	87
445,054	101	ASCO	87
445,290	113	NECA	81
445,294	119	POLI	87
445,296	105	BUDG	87
445,328	112	TRAN	87
446,123	116	NAUT	81
446,124	117	NGEN	87
446,429	151	TIME	81
446,430	152	NAVI	81
446,431	150	I2CM	81
446,432	149	DIGI	81
446,494	154	TIME	81
446,553	104	BUDG	87
446,579	106	FCOM	81
447,380	125	BCON	87
447,414	122	NAVI	81
447,415	129	DOWN	87
447,416	128	BUDG	87
447,446	135	OPNS	87
447,447	140	NGEN	87
447,448	132	TRAN	87
447,449	138	NAUT	87
447,496	121	RECO	87
447,502	143	POLI	87
447,529	144	POLI	87
447,611	137	NAUT	87
447,621	156	I2CR	81
447,679	130	FCOM	87
447,711	153	I2CR	81
447,712	127	I2GE	87
447,724	131	TRAN	87

Serial No.	Case No.	Group	Priority
447,726	159	VIEW	81
447,826	126	BCON	87
447,908	134	OPNS	87
447,938	133	TRAN	87
447,974	145	SCHE	87
447,977	141	POLI	87
448,099	158	I2GE	81
448,116	157	NAVI	81
448,141	155	I2CR	81
448,143	120	POLI	87
448,175	102	BCON	87
448,251	142	POLI	87
448,309	139	NAUT	87
448,326	123	VERI	81
448,643	072	METE	81
448,644	163	SYNC	87
448,662	201	DIGI	87
448,667	179	VIEW	81
448,794	203	SYNC	87
448,810	177	DECR	81
448,833	162	SYNC	87
448,915	069	METE	81
448,917	165	SYNC	87
448,976	161	SYNC	87
448,977	071	METE	81
448,978	181	NAVI	81
449,110	204	SYNC	81
449,248	171	VIEW	81
449,263	172	DECR	81
449,281	183	RCOM	81
449,291	068	METE	81
449,302	147	VERI	87
449,351	170	NAVI	81
449,369	058	BCON	81
449,411	180	VIEW	81
449,413	174	DECR	81
449,523	182	SETT	81
449,530	124	METE	87
449,531	176	NECA	81
449,532	205	SYNC	81
449,652	146	SCHE	87
449,697	175	NAVI	81
449,702	202	ASCO	81

Serial No.	Case No.	Group	Priority
449,717	067	METE	81
449,718	164	SYNC	87
449,798	206	SYNC	81
449,800	184	RCOM	81
449,829	178	VIEW	81
449,867	169	DOWN	81
449,901	136	NECA	87
450,680	200	SYNC	81
451,203	079	DOWN	81
451,377	070	METE	81
451,496	057	BCON	81
451,746	078	DOWN	81
452,395	065	METE	81
458,566	230	SYNC	87
458,699	247	METE & NAVI	87
458,760	217	MSG	87
459,216	218	NAVI	81
459,217	231	SYNC	87
459,218	256	I2RE	81
459,506	224	NCOM	87
459,507	232	SYNC	87
459,521	233	ASCO	87
459,522	238	MSG	87
460,043	215	MSG	87
460,081	240	MSG	87
460,085	239	MSG	87
460,120	214	DATA	81
460,240	241	NAVI	81
460,256	254	SYNC	87
460,274	236	DIGI	87
460,387	219	REST	87
460,394	222	OPNS	87
460,401	242	RCOM	81
460,556	248	METE & NAVI	87
460,557	245	NCOM	87
460,591	216	MSG	87
460,592	225	NCOM	87
460,634	246	NCOM	87
460,642	244	NCOM	87
460,668	211	STUD	81
460,711	212	DIGI	87

Serial No.	Case No.	Group	Priority
460,713	253	SYNC	87
460,743	229	SYNC	87
460,765	255	SYNC	87
460,766	249	NCOM	87
460,770	237	BCON/I2GE & DOWN	87
460,793	213	DOWN	81
460,817	223	NCOM	87
466,887	281	COMB	81
466,888	270	RCOM	81
466,890	298	DOWN	81
466,894	276	COMB	81
467,045	285	COMB	81
467,904	284	COMB	81
468,044	282	COMB	81
468,323	292	COMB	81
468,324	259	METE	81
468,641	263	INTE	81
468,736	277	COMB	81
468,994	297	DECR	81
469,056	264	RCOM	81
469,059	288	COMB	81
469,078	279	COMB	81
469,103	300	I2GE	81
469,106	266	DOWN	81
469,107	294	I2GE	87
469,108	269	RCOM	81
469,109	296	TELE	87
469,355	260	DOWN	81
469,496	290	COMB	81
469,517	287	COMB	81
469,612	280	SWIT	81
469,623	273	TELE	87
469,624	262	RCOM	81
469,626	272	NAVI	81
470,051	268	DOWN	81
470,052	302	VIEW	81
470,053	291	COMB	81
470,054	265	RCOM	81
470,236	278	COMB	81
470,447	275	COMB	81
470,448	293	ASCO	81

Serial No.	Case No.	Group	Priority
470,476	301	VIEW	81
470,570	289	COMB	81
471,024	299	INTE	81
471,191	267	RCOM	81
471,238	271	NAVI	81
471,239	283	COMB	81
471,240	286	COMB	81
472,066	295	TELE	87
472,399	305	MULT	87
472,462	315	DIGI	87
472,980	353	OPNS	81
473,213	320	FANA	87
473,224	187	NAUT	81
473,484	258	BCON	81
473,927	333	I2GR	87
473,996	073	METE	81
473,997	364	CHAN	87
473,998	328	PROB	87
473,999	342	DATA	81
474,119	330	METE & ASRE	87
474,139	324	FCOM	81
474,145	303	DECR	87
474,146	186	STUD	81
474,147	226	ASCO	81
474,496	360	NCOM	87
474,674	319	FANA	87
474,963	098	TRAN	81
474,964	064	MKTR	81
475,341	160	ADVT	87
475,342	234	NECA	81
477,547	329	I2GE & I2RE	87
477,547	329	I2RE & I2GE	87
477,564	340	PARA	81
477,570	335	PROB	87
477,660	090	HEAD	81
477,712	173	DECR	81
477,805	197	NAUT	81
477,955	188	I2GE	81
478,044	334	PROB	87
478,107	309	DATA	

Serial No.	Case No.	Group	Priority
478,663	099	TRAN	81
478,767	316	I2GE	87
478,794	347	DIGI	81
478,858	351	NAVI	8
478,864	167	ADVT	87
478,908	313	SKIP	87
479,042	352	DIGI	81
479,215	358	VIEW	87
479,216	341	NAVI	87
479,217	093	TRAN	81
479,374	148	CLER	87
479,375	326	NAVI	87
479,414	359	NCOM	87
479,523	365	TELE	87
479,524	054	CLER	87
479,667	192	FNET	81
480,059	063	MKTR	81
480,060	227	I2CR	81
480,383	349	NAVI	81
480,392	310	DATA	87
480,740	343	VIEW	81
481,074	190	DECR	81
482,573	096	TRAN	81
482,574	210	MICR	87
482,857	311	CHAN	87
483,054	195	STUD	81
483,169	338	PROB	87
483,174	251	I2RE	81
483,269	307	MSTA	81
483,980	066	METE	81
484,275	323	I2GR	81
484,276	092	TRAN	81
484,858	362	I2GE & I2RE	87
484,858	362	I2RE & I2GE	87
484,865	348	VIEW	81
485,282	361	NCOM	87
485,283	199	VIEW	81
485,507	304	DECR	87
485,772	332	I2GE	87
485,775	077	DECR	81
486,258	357	I2CR	8

Serial No.	Case No.	Group	Priority
486,259	257	REST	87
486,265	228	NECA	81
486,266	337	PROB	87
486,297	331	BCON/REST & METE	87
487,155	308	DATA	87
487,397	250	NECA	87
487,408	356	MULT	81
487,410	314	SKIP	87
487,411	318	FANA	87
487,428	363	VIEW	87
487,506	350	NAVI	81
487,516	094	TRAN	81
487,526	355	MULT	81
487,536	097	TRAN	81
487,546	325	I2GE	87
487,556	321	I2GE	87
487,565	327	ASCO & METE	87
487,649	344	SETT	81
487,851	252	I2RE	81
487,893	191	FNET	81
487,980	076	NAVI	81
487,981	196	NAUT	81
487,982	095	TRAN	81
487,984	346	BCON	81
488,032	189	I2CR	81
488,058	322	I2GE	81
488,378	339	PARA	81
488,383	166	ADVT	87
488,436	336	PROB	87
488,438	235	NECA	87
488,439	185	FNET	81
488,619	317	I2GR	87
488,620	354	OPNS	81
498,002	345	REST	81
511,491	274	I2GE	81

Case No.	Group	Priority	Serial No.
008	HEAD	81	113,329
010	BCON	81	397,582
012	DATA	81	397,636
017	TRAN	81	397,371
036	DIGI	81	435,757
037	DIGI	81	437,887
038	FNAV	81	437,864
039	HOST	81	438,206
040	HOST	81	437,791
041	HOST	81	435,758
042	I2CM	81	437,045
043	I2GE	81	438,659
044	I2CR	81	437,629
045	I2GR	81	437,635
046	MSTA	81	438,216
047	MULT	81	437,044
048	NAUT	81	437,937
049	PARA	81	437,819
050	PARA	87	438,011
051	ASRE	81	440,657
052	ASRE	81	441,701
053	ASRE	81	441,027
054	CLER	87	479,524
055	BCON	81	442,369
056	BCON	81	441,575
057	BCON	81	451,496
058	BCON	81	449,369
059	BCON	81	440,837
060	BCON	81	441.033
061	NAVI	81	441,942
062	MKTR	81	439,668
063	MKTR	81	480,059
064	MKTR	81	474,964
065	METE	81	452,395
066	METE	81	483,980
067	METE	81	449,717
068	METE	81	449,291
069	METE	81	448,915
070	METE	81	451,377
071	METE	81	448,977
072	METE	81	448,643
073	METE	81	473,996
074	OPNS	81	442,383

Case No.	Group	Priority	Serial No.
075	FCOM	81	441,880
076	NAVI	81	487,980
077	DECR	81	485,775
078	DOWN	81	451,746
079	DOWN	81	451,203
080	I2GR	81	441,577
081	DATA	81	439,670
082	DATA	81	441,749
083	DATA	81	442,327
084	DATA	81	442,505
085	DATA	81	441,821
086	DATA	81	441,996
087	HEAD	81	442,165
088	HEAD	81	442,335
089	HEAD	81	442,507
090	HEAD	81	477,660
091	unused	81	
092	TRAN	81	484,276
093	TRAN	81	479,217
094	TRAN	81	487,516
095	TRAN	81	487,982
096	TRAN	81	482,573
097	TRAN	81	487,536
098	TRAN	81	474,963
099	TRAN	81	478,663
100	ASCO	87	444,786
101	ASCO	87	445,054
102	BCON	87	448,175
103	TRAN	87	444,757
104	BUDG	87	446,553
105	BUDG	87	445,296
106	FCOM	81	446,579
107	FNAV	81	444,756
108	FNAV	87	445,045
109	TRAN	87	444,788
110	TRAN	87	444,781
111	TRAN	87	444,781
112	TRAN	87	445,328
113	NECA	81	445,290
114	NAUT	87	444,758
115	NAUT	87	444,887
116	NAUT	81	446,123
117	NGEN	87	446,124

Case No.	Group	Priority	Serial No.
118	POLI	87	444,787
119	POLI	87	445,294
120	POLI	87	448,143
121	RECO	87	447,496
122	NAVI	81	447,414
123	VERI	81	448,326
124	METE	87	449,530
125	BCON	87	447,380
126	BCON	87	447,826
127	I2GE	87	447,712
128	BUDG	87	447,416
129	DOWN	87	447,415
130	FCOM	87	447,679
131	TRAN	87	447,724
132	TRAN	87	447,448
133	TRAN	87	447,938
134	OPNS	87	447,908
135	OPNS	87	447,446
136	NECA	87	449,901
137	NAUT	87	447,611
138	NAUT	87	447,449
139	NAUT	87	448,309
140	NGEN	87	447,447
141	POLI	87	447,977
142	POLI	87	448,251
143	POLI	87	447,502
144	POLI	87	447,529
145	SCHE	87	447,974
146	SCHE	87	449,652
147	VERI	87	449,302
148	CLER	87	479,374
149	DIGI	81	446,432
150	I2CM	81	446,431
151	TIME	81	446,429
152	NAVI	81	446,430
153	I2CR	81	447,711
154	TIME	81	446,494
155	I2CR	81	448,141
156	I2CR	81	447,621
157	NAVI	81	448,116
158	I2GE	81	448,099
159	VIEW	81	447,726
160	ADVT	87	475,341

Case No.	Group	Priority	Serial No.
161	SYNC	87	448,976
162	SYNC	87	448,833
163	SYNC	87	448,644
164	SYNC	87	449,718
165	SYNC	87	448,917
166	ADVT	87	488,383
167	ADVT	87	478,864
168	unused	87	
169	DOWN	81	449,867
170	NAVI	81	449,351
171	VIEW	81	449,248
172	DECR	81	449,263
173	DECR	81	477,712
174	DECR	81	449,413
175	NAVI	81	449,697
176	NECA	81	449,531
177	DECR	81	448,810
178	VIEW	81	449,829
179	VIEW	81	448,667
180	VIEW	81	449,411
181	NAVI	81	448,978
182	SETT	81	449,523
183	RCOM	81	449,281
184	RCOM	81	449,800
185	FNET	81	488,439
186	STUD	81	474,146
187	NAUT	81	473,224
188	I2GE	81	477,955
189	I2CR	81	488,032
190	DECR	81	481,074
191	FNET	81	487,893
192	FNET	81	479,667
193	unused	81	
194	unused	81	
195	STUD	81	483,054
196	NAUT	81	487,981
197	NAUT	81	477,805
198	unused	81	
199	VIEW	81	485,283
200	SYNC	81	450,680
201	DIGI	87	448,662
202	ASCO	81	449,70
203	SYNC	87	448,79

Case No.	Group	Priority	Serial No.
204	SYNC	81	449.110
205	SYNC	81	449,532
206	SYNC	81	449,798
210	MICR	87	482,574
211	STUD	81	460,668
212	DIGI	87	460,711
213	DOWN	81	460,793
214	DATA	81	460,120
215	MSG	87	460,043
216	MSG	87	460,591
217	MSG	87	458,760
218	NAVI	81	459,216
219	REST	87	460,387
222	OPNS	87	460,394
223	NCOM	87	460,817
224	NCOM	87	459,506
225	NCOM	87	460,592
226	ASCO	81	474,147
227	I2CR	81	480,060
228	NECA	81	486,265
229	SYNC	87	460,743
230	SYNC	87	458,566
231	SYNC	87	459,217
232	SYNC	87	459,507
233	ASCO	87	459,521
234	NECA	81	475,342
235	NECA	87	488,438
236	DIGI	87	460,274
237	BCON/I2 GE & DOWN	87	460,770
238	MSG	87	459,522
239	MSG	87	460,085
240	MSG	87	460,081
241	NAVI	81	460,240
242	RCOM	81	460,401
244	NCOM	87	460,642
245	NCOM	87	460,557
246	NCOM	87	460,634
247	METE & NAVI	87	458,699
248	METE & NAVI	87	460,556

Case No.	Group	Priority	Serial No.
249	NCOM	87	460,766
250	NECA	87	487,397
251	I2RE	81	483,174
252	I2RE	81	487,851
253	SYNC	87	460,713
254	SYNC	87	460,256
255	SYNC	87	460,765
256	I2RE	81	459,218
257	REST	87	486,259
258	BCON	81	473,484
259	METE	81	468,324
260	DOWN	81	469,355
262	RCOM	81	469,624
263	INTE	81	468,641
264	RCOM	81	469,056
265	RCOM	81	470,054
266	DOWN	81	469,106
267	RCOM	81	471,191
268	DOWN	81	470,051
269	RCOM	81	469,108
270	RCOM	81	466,888
271	NAVI	81	471,238
272	NAVI	81	469,626
273	TELE	87	469,623
274	I2GE	81	511,491
275	COMB	81	470,447
276	COMB	81	466,894
277	COMB	81	468,736
278	COMB	81	470,236
279	COMB	81	469,078
280	SWIT	81	469,612
281	COMB	81	466,887
282	COMB	81	468,044
283	COMB	81	471,239
284	COMB	81	467,904
285	COMB	81	467,045
286	COMB	81	471,240
287	COMB	81	469,517
288	COMB	81	469,059
289	COMB	81	470,570
290	COMB	81	469,496
291	COMB	81	470,053
292	COMB	81	468,323

Case No.	Group	Priority	Serial No.
293	ASCO	81	470,448
294	I2GE	87	469,107
295	TELE	87	472,066
296	TELE	87	469,109
297	DECR	81	468,994
298	DOWN	81	466,890
299	INTE	81	471,024
300	I2GE	81	469,103
301	VIEW	81	470,476
302	VIEW	81	470,052
303	DECR	87	474,145
304	DECR	87	485,507
305	MULT	87	472,399
307	MSTA	81	483,269
308	DATA	87	487,155
309	DATA		478,107
310	DATA	87	480,392
311	CHAN	87	482,857
313	SKIP	87	478,908
314	SKIP	87	487,410
315	DIGI	87	472,462
316	I2GE	87	478,767
317	I2GR	87	488,619
318	FANA	87	487,411
319	FANA	87	474,674
320	FANA	87	473,213
321	I2GE	87	487,556
322	I2GE	81	488,058
323	I2GR	81	484,275
324	FCOM	81	474,139
325	I2GE	87	487,546
326	NAVI	87	479,375
327	ASCO & METE	87	487,565
328	PROB	87	473,998
329	I2GE & I2RE	87	477,547
329	I2RE & I2GE	87	477,547
330	METE & ASRE	87	474,119
331	BCON/REST &	87	486,297

Case No.	Group	Priority	Serial No.
	METE		
332	I2GE	87	485,772
333	I2GR	87	473,927
334	PROB	87	478,044
335	PROB	87	477,570
336	PROB	87	488,436
337	PROB	87	486,266
338	PROB	87	483,169
339	PARA	81	488,378
340	PARA	81	477,564
341	NAVI	87	479,216
342	DATA	81	473,999
343	VIEW	81	480,740
344	SETT	81	487,649
345	REST	81	498,002
346	BCON	81	487,984
347	DIGI	81	478,794
348	VIEW	81	484,865
349	NAVI	81	480,383
350	NAVI	81	487,506
351	NAVI	8	478,858
352	DIGI	81	479,042
353	OPNS	81	472,980
354	OPNS	81	488,620
355	MULT	81	487,526
356	MULT	81	487,408
357	I2CR	8	486,258
358	VIEW	87	479,215
359	NCOM	87	479,414
360	NCOM	87	474,496
361	NCOM	87	485,282
362	I2GE & I2RE	87	484,858
362	I2RE & I2GE	87	484,858
363	VIEW	87	487,428
364	CHAN	87	473,997
365	TELE	87	479,523

Group	Case No.	Priority	Serial No.
ADVT	160	87	475,341
ADVT	166	87	488,383
ADVT	167	87	478,864
ASCO	100	87	444,786
ASCO	101	87	445,054
ASCO	202	81	449,702
ASCO	226	81	474,147
ASCO	233	87	459,521
ASCO	293	81	470,448
ASCO & METE	327	87	487,565
ASRE	051	81	440,657
ASRE	052	81	441,701
ASRE	053	81	441,027
ASRE & METE	330	87	474,119
BCON	010	81	397,582
BCON	055	81	442,369
BCON	056	81	441,575
BCON	057	81	451,496
BCON	058	81	449,369
BCON	059	81	440,837
BCON	060	81	441.033
BCON	102	87	448,175
BCON	125	87	447,380
BCON	126	87	447,826
BCON	258	81	473,484
BCON	346	81	487,984
BCON/12 GE & DOWN	237	87	460,770
BCON/REST & METE	331	87	486,297
BUDG	104	87	446,553
BUDG	105	87	445,296
BUDG	128	87	447,416
CHAN	311	87	482,857
CHAN	364	87	473,997
CLER	054	87	479,524
CLER	148	87	479,374
COMB	275	81	470,447

Group	Case No.	Priority	Serial No.
COMB	276	81	466,894
COMB	277	81	468,736
COMB	278	81	470,236
COMB	279	81	469,078
COMB	281	81	466,887
COMB	282	81	468,044
COMB	283	81	471,239
COMB	284	81	467,904
COMB	285	81	467,045
COMB	286	81	471,240
COMB	287	81	469,517
COMB	288	81	469,059
COMB	289	81	470,570
COMB	290	81	469,496
COMB	291	81	470,053
COMB	292	81	468,323
DATA	012	81	397,636
DATA	081	81	439,670
DATA	082	81	441,749
DATA	083	81	442,327
DATA	084	81	442,505
DATA	085	81	441,821
DATA	086	81	441,996
DATA	214	81	460,120
DATA	308	87	487,155
DATA	309		478,107
DATA	310	87	480,392
DATA	342	81	473,999
DECR	077	81	485,775
DECR	172	81	449,263
DECR	173	81	477,712
DECR	174	81	449,413
DECR	177	81	448,810
DECR	190	81	481,074
DECR	297	81	468,994
DECR	303	87	474,145
DECR	304	87	485,507
DIGI	036	81	435,757
DIGI	037	81	437,887
DIGI	149	81	446,432
DIGI	201	87	448,662
DIGI	212	87	460,711

Group	Case No.	Priority	Serial No.
DIGI	236	87	460,274
DIGI	315	87	472,462
DIGI	347	81	478,794
DIGI	352	81	479,042
DOWN	078	81	451,746
DOWN	079	81	451,203
DOWN	129	87	447,415
DOWN	169	81	449,867
DOWN	213	81	460,793
DOWN	260	81	469,355
DOWN	266	81	469,106
DOWN	268	81	470,051
DOWN	298	81	466,890
DOWN & BCON/ I2GE	237	87	460,770
FANA	318	87	487,411
FANA	319	87	474,674
FANA	320	87	473,213
FCOM	075	81	441,880
FCOM	106	81	446,579
FCOM	130	87	447,679
FCOM	324	81	474,139
FNAV	038	81	437,864
FNAV	107	81	444,756
FNAV	108	87	445,045
FNET	185	81	488,439
FNET	191	81	487,893
FNET	192	81	479,667
HEAD	008	81	113,329
HEAD	087	81	442,165
HEAD	088	81	442,335
HEAD	089	81	442,507
HEAD	090	81	477,660
HOST	039	81	438,206
HOST	040	81	437,791
HOST	041	81	435,758
I2CM	042	81	437,045
I2CM	150	81	446,431
I2CR	044	81	437,629
I2CR	153	81	447,711

Group	Case No.	Priority	Serial No.
I2CR	155	81	448,141
I2CR	156	81	447,621
I2CR	189	81	488,032
I2CR	227	81	480,060
I2CR	357	8	486,258
I2GE	043	81	438,659
I2GE	127	87	447,712
I2GE	158	81	448,099
I2GE	188	81	477,955
I2GE	274	81	511,491
I2GE	294	87	469,107
I2GE	300	81	469,103
I2GE	316	87	478,767
I2GE	321	87	487,556
I2GE	322	81	488,058
I2GE	325	87	487,546
I2GE	332	87	485,772
I2GE / BCON & DOWN	237	87	460,770
I2GE & I2RE	329	87	477,547
I2GE & I2RE	362	87	484,858
I2GR	045	81	437,635
I2GR	080	81	441,577
I2GR	317	87	488,619
I2GR	323	81	484,275
I2GR	333	87	473,927
I2RE	251	81	483,174
I2RE	252	81	487,851
I2RE	256	81	459,218
I2RE & I2GE	329	87	477,547
I2RE & I2GE	362	87	484,858
INTE	263	81	468,641
INTE	299	81	471,024
METE	065	81	452,395
METE	066	81	483,980
METE	067	81	449,717
METE	068	81	449,291

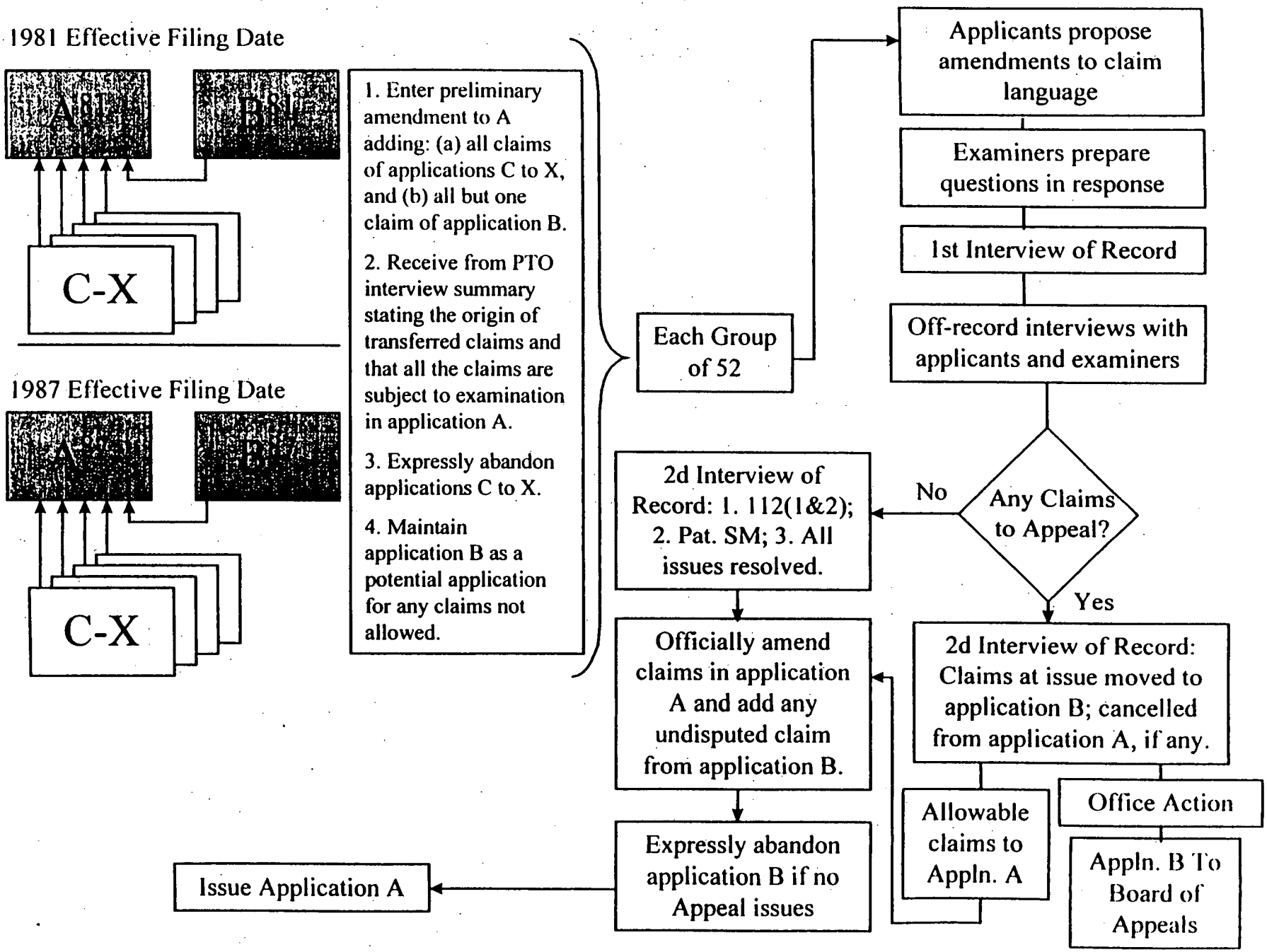
Group	Case No.	Priority	Serial No.
METE	069	81	448,915
METE	070	81	451,377
METE	071	81	448,977
METE	072	81	448,643
METE	073	81	473,996
METE	124	87	449,530
METE	259	81	468,324
METE & ASCO	327	87	487,565
METE & ASRE	330	87	474,119
METE & BCON/REST	331	87	486,297
METE & NAVI	247	87	458,699
METE & NAVI	248	87	460,556
MICR	210	87	482,574
MKTR	062	81	439,668
MKTR	063	81	480,059
MKTR	064	81	474,964
MSG	215	87	460,043
MSG	216	87	460,591
MSG	217	87	458,760
MSG	238	87	459,522
MSG	239	87	460,085
MSG	240	87	460,081
MSTA	046	81	438,216
MSTA	307	81	483,269
MULT	047	81	437,044
MULT	305	87	472,399
MULT	355	81	487,526
MULT	356	81	487,408
NAUT	048	81	437,937
NAUT	114	87	444,758
NAUT	115	87	444,887
NAUT	116	81	446,123
NAUT	137	87	447,611
NAUT	138	87	447,449
NAUT	139	87	448,309
NAUT	187	81	473,224

Group	Case No.	Priority	Serial No.
NAUT	196	81	487,981
NAUT	197	81	477,805
NAVI	061	81	441,942
NAVI	076	81	487,980
NAVI	122	81	447,414
NAVI	152	81	446,430
NAVI	157	81	448,116
NAVI	170	81	449,351
NAVI	175	81	449,697
NAVI	181	81	448,978
NAVI	218	81	459,216
NAVI	241	81	460,240
NAVI	271	81	471,238
NAVI	272	81	469,626
NAVI	326	87	479,375
NAVI	341	87	479,216
NAVI	349	81	480,383
NAVI	350	81	487,506
NAVI	351	8	478,858
NAVI & METE	247	87	458,699
NAVI & METE	248	87	460,556
NCOM	223	87	460,817
NCOM	224	87	459,506
NCOM	225	87	460,592
NCOM	244	87	460,642
NCOM	245	87	460,557
NCOM	246	87	460,634
NCOM	249	87	460,766
NCOM	359	87	479,414
NCOM	360	87	474,496
NCOM	361	87	485,282
NECA	113	81	445,290
NECA	136	87	449,901
NECA	176	81	449,531
NECA	228	81	486,265
NECA	234	81	475,342
NECA	235	87	488,438
NECA	250	87	487,397
NGEN	117	87	446,124
NGEN	140	87	447,447

Group	Case No.	Priority	Serial No.
OPNS	074	81	442,383
OPNS	134	87	447,908
OPNS	135	87	447,446
OPNS	222	87	460,394
OPNS	353	81	472,980
OPNS	354	81	488,620
PARA	049	81	437,819
PARA	050	87	438,011
PARA	339	81	488,378
PARA	340	81	477,564
POLI	118	87	444,787
POLI	119	87	445,294
POLI	120	87	448,143
POLI	141	87	447,977
POLI	142	87	448,251
POLI	143	87	447,502
POLI	144	87	447,529
PROB	328	87	473,998
PROB	334	87	478,044
PROB	335	87	477,570
PROB	336	87	488,436
PROB	337	87	486,266
PROB	338	87	483,169
RCOM	183	81	449,281
RCOM	184	81	449,800
RCOM	242	81	460,401
RCOM	262	81	469,624
RCOM	264	81	469,056
RCOM	265	81	470,054
RCOM	267	81	471,191
RCOM	269	81	469,108
RCOM	270	81	466,888
RECO	121	87	447,496
REST	219	87	460,387
REST	257	87	486,259
REST	345	81	498,002
REST / BCON & METE	331	87	486,297
SCHE	145	87	447,974
SCHE	146	87	449,652
SETT	182	81	449,523

Group	Case No.	Priority	Serial No.
SETT	344	81	487,649
SKIP	313	87	478,908
SKIP	314	87	487,410
STUD	186	81	474,146
STUD	195	81	483,054
STUD	211	81	460,668
SWIT	280	81	469,612
SYNC	161	87	448,976
SYNC	162	87	448,833
SYNC	163	87	448,644
SYNC	164	87	449,718
SYNC	165	87	448,917
SYNC	200	81	450,680
SYNC	203	87	448,794
SYNC	204	81	449.110
SYNC	205	81	449,532
SYNC	206	81	449,798
SYNC	229	87	460,743
SYNC	230	87	458,566
SYNC	231	87	459,217
SYNC	232	87	459,507
SYNC	253	87	460,713
SYNC	254	87	460,256
SYNC	255	87	460,765
TELE	273	87	469,623
TELE	295	87	472,066
TELE	296	87	469,109
TELE	365	87	479,523
TIME	151	81	446,429
TIME	154	81	446,494
TRAN	017	81	397,371
TRAN	092	81	484,276
TRAN	093	81	479,217
TRAN	094	81	487,516
TRAN	095	81	487,982
TRAN	096	81	482,573
TRAN	097	81	487,536
TRAN	098	81	474,963
TRAN	099	81	478,663
TRAN	103	87	444,757
TRAN	109	87	444,788
TRAN	110	87	444,781

Group	Case No.	Priority	Serial No.
TRAN	111	87	444,781
TRAN	112	87	445,328
TRAN	131	87	447,724
TRAN	132	87	447,448
TRAN	133	87	447,938
unused	091	81	
unused	168	87	
unused	193	81	
unused	194	81	
unused	198	81	
VERI	123	81	448,326
VERI	147	87	449,302
VIEW	159	81	447,726
VIEW	171	81	449,248
VIEW	178	81	449,829
VIEW	179	81	448,667
VIEW	180	81	449,411
VIEW	199	81	485,283
VIEW	301	81	470,476
VIEW	302	81	470,052
VIEW	343	81	480,740
VIEW	348	81	484,865
VIEW	358	87	479,215
VIEW	363	87	487,428


1981 Effective Filing Date
A81
B81
C-X
1987 Effective Filing Date
A87
B87
C-X
1. Enter preliminary amendment to A adding: (a) all claims of applications C to X, and (b) all but one claim of application B.
2. Receive from PTO interview summary stating the origin of transferred claims and that all the claims are subject to examination in application A.
3. Expressly abandon applications C to X.
4. Maintain application B as a potential application for any claims not allowed.
Each Group of 52
Applicants propose amendments to claim language
Examiners prepare questions in response
1st Interview of Record
Off-record interviews with applicants and examiners
Any Claims to Appeal?
No
Yes
2d Interview of Record: 1. 112(1&2); 2. Pat. SM; 3. All issues resolved.
Officially amend claims in application A and add any undisputed claim from application B.
Expressly abandon application B if no Appeal issues
Issue Application A
2d Interview of Record: Claims at issue moved to application B; cancelled from application A, if any.
Allowable claims to Appln. A
Office Action
Appln. B To Board of Appeals

Interview Summary Attachment

USPTO Serial No. 08/AAA,AAA
Attorney Docket No. 05634.000A
Filing Date: August 30, 1993
Art Unit: 2737
Examiner: FAILE, A.

Applicants hereby present a preliminary amendment to the above-identified application adding the following claim(s) from the following application serial number(s), and hereby expressly abandon the following corresponding application(s) as indicated below:

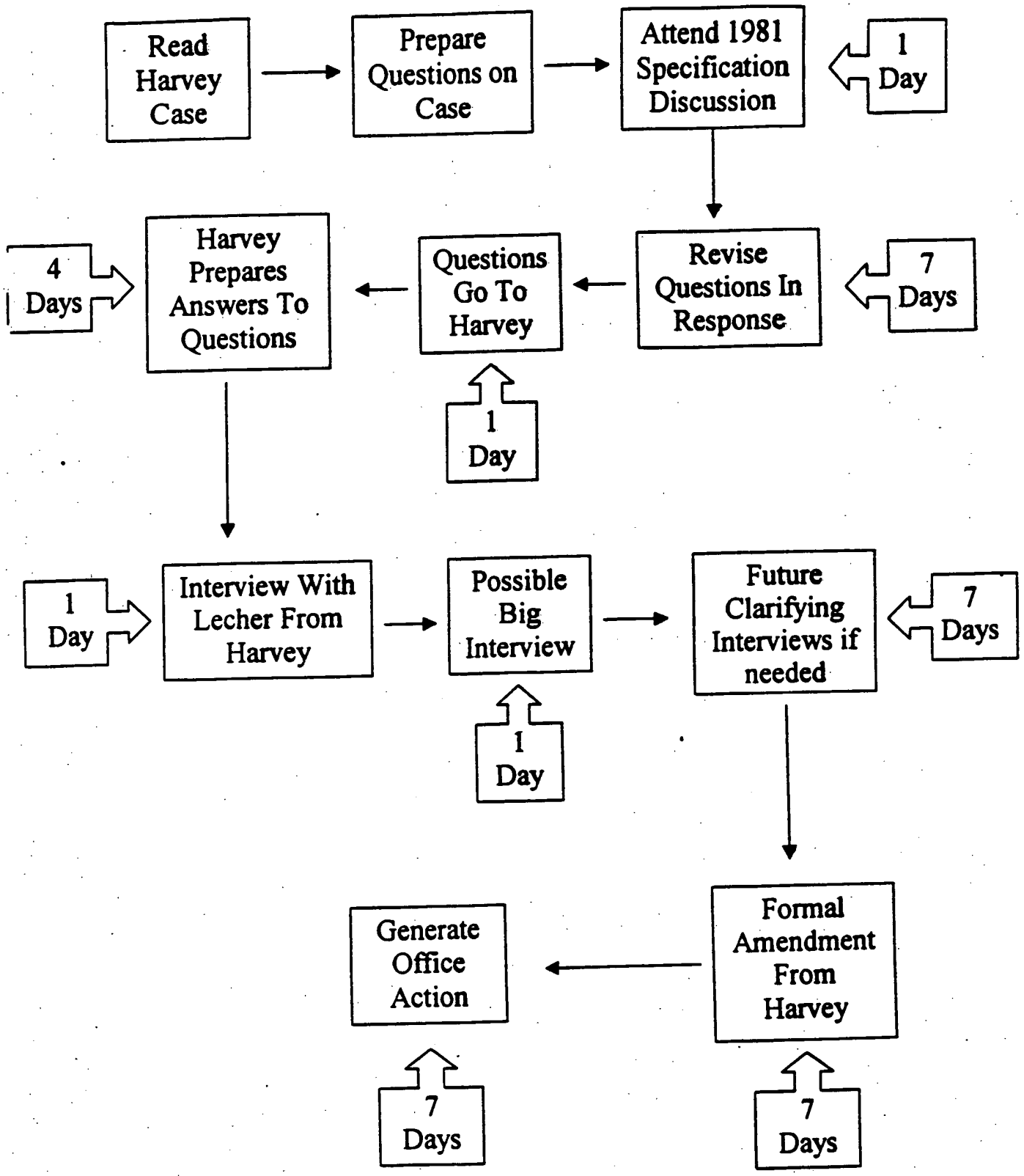
Claims	Applications Serial No(s).	Expressly Abandon Application(s)
X	08/XXX,XXX	
Y	08/YYY,YYY	Abandoned
Z	08/ZZZ,ZZZ	Abandoned

The preliminary amendment adding the above-identified claims is hereby entered in the above-identified application and examined along with original claims XXX. An action on the merits is to follow.

Date:_____, 1999.

John Harvey's Order	PTO#	available	52 Group	52 Group Defintions	Examiner	Examiner's Order
	08/475,341	yes	ADVT	Presenting advertising.	NGUYEN, C.	Holloway
	08/475,564	yes	ADVT	Presenting advertising.	CHRISTENSEN, A.	Holloway.
	08/488,383	yes	ADVT	Presenting advertising.	HONG, H.	Holloway
	08/440,657	yes	ASRE	Assembling records at at receiver station.	HSU, A.	Trost
	08/441,027	yes	ASRE	Assembling records at at receiver station.	VU, N.	Trost
	08/441,701	yes	ASRE	Assembling records at at receiver station.	CUMMING, W.	Trost
	08/445,296	yes	BUDG	Presenting budget information.	NGUYEN, C.	Moe
	08/446,553	yes	BUDG	Presenting budget information.	JUNG, M.	Moe
	08/447,416	yes	BUDG	Presenting budget information.	MOE, A.	Moe
	08/473,997	yes	CHAN	Processing transmission channels.	HOOSAIN, A.	Vu
2	08/482,857	yes	CHAN	Processing transmission channels.	TO, D.	Vu
	08/473,213	yes	FANA	Presenting financial analyses.	CUMMING, W.	Vo
	08/474,674	yes	FANA	Presenting financial analyses.	BOST, D.	Vo
	08/487,411	yes	FANA	Presenting financial analyses.	SAFOUREK, B.	Vo
	08/437,864	yes	FNAV	Navigation to (i.e., finding) financial information.	SAINT-SURIN, J.	Urban
X	08/444,756	yes	FNAV	Navigation to (i.e., finding) financial information.	URBAN, E.	Urban #3
	08/445,045	yes	FNAV	Navigation to (i.e., finding) financial information.	CUMMING, W.	Urban
	08/479,667	yes	FNET	Financial network automation.	CHIANG, J.	Le
	08/487,895	yes	FNET	Financial network automation.	PRESSON, T.	Le
	08/488,439	yes	FNET	Financial network automation.	PRESSON, T.	Le
	08/435,758	yes	HOST	Host computer provision of information.	JUNG, M.	Tran
4	08/437,791	yes	HOST	Host computer provision of information.	NGO, R.	Tran
	08/438,206	yes	HOST	Host computer provision of information.	VINCENT, D.	Tran
	08/437,045	yes	I2CM	Instruct-to-combine systems.	CHEVALIER, R.	Vu
5	08/446,431	yes	I2CM	Instruct-to-combine systems.	VU, H.	Vu
	08/468,641	yes	INTE	Integrating remote with local processing & imaging.	LUTHER, W.	Luther
X	08/470,571	yes	INTE	Integrating remote with local processing & imaging.	CHIANG, J.	Luther #1
	08/471,024	yes	INTE	Integrating remote with local processing & imaging.	VINCENT, D.	Luther
	08/438,216	yes	MSTA	Media station control.	MARCELO, M.	Tung
	08/483,269	yes	MSTA	Media station control.	PRESSON, T.	Tung
	08/437,044	yes	MULT	Coordination of mult-channel/media & multiple media.	KIZOU, H.	Hunter
	08/472,399	yes	MULT	Coordination of mult-channel/media & multiple media.	HUNTER, D.	Hunter
X	08/487,408	yes	MULT	Coordination of mult-channel/media & multiple media.	VINCENT, D.	Hunter #2
	08/487,526	yes	MULT	Coordination of mult-channel/media & multiple media.	LUTHER, W.	Hunter
	08/446,124	yes	NGEN	Networked generation of information.	TO, D.	Diep
3	08/447,447	yes	NGEN	Networked generation of information.	NGUYEN, H.	Diep
	08/478,908	yes	SKIP	Skipping incomplete images.	FAILE, A.	Tung
1	08/487,410	yes	SKIP	Skipping incomplete images.	RAO, S.	Tung
	08/469,612	yes	SWIT	Switching between broadcast and cablecast transmiss	NGO, R.	Diep.

Harvey Project Process



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Patent and Trademark Office
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Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/459,788	06/02/95	HARVEY J	5634.243

LM02/0608

Hunton & Williams
1900 K Street, N.W.
Washington DC 20006-1109

EXAMINER
LUTHER,W

ART UNIT	PAPER NUMBER
2731	27

DATE MAILED: 06/08/00

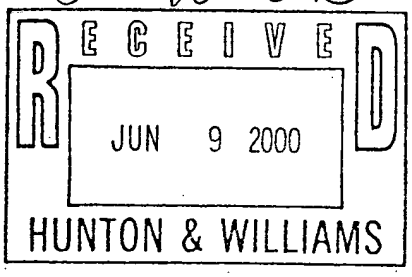
Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

See Attached.

52090.243

REVIEWED W



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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
08/459,788			

EXAMINER	
ART UNIT	PAPER NUMBER
	27

DATE MAILED:

INTERVIEW SUMMARY

All participants (applicant, applicant's representative, PTO personnel):

(1) *William Luther* (3) _____

(2) *Tom Scott* (4) _____

Date of Interview *Jun 7, 2000*

Type: [X] Telephonic [ ] Personal (copy is given to [ ] applicant [ ] applicant's representative).

Exhibit shown or demonstration conducted: [ ] Yes [X] No. If yes, brief description:

Agreement [ ] was reached. [X] was not reached.

Claim(s) discussed: *n/a*

Identification of prior art discussed:
n/a

Description of the general nature of what was agreed to if an agreement was reached, or any other comments:
Ex'r requests clarification for when applicants intend to honor their agreement, made aprox. 1 1/2 year ago, to consolidate this application (see attachment 3 when, after the ~1/99 agreement, applicants actually acted on the agreement as early as 3/9/99). Ex'r notes that applicants have alleged that the 'agreement to consolidate' corresponds to the process illustrated in attachment 1's step 2 wherein applicants have alleged they would necessarily provide the interview summary corresponding to attachment 2 for meeting attachment 1's step 2. However, applicants have failed, to date, to provide attachment 2 for meeting attachment 1; accordingly, applicants have failed to meet their commitment for providing attachment 2, and their commitment for performing the instant consolidation.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendents which would render the claims allowable is available, a summary thereof must be attached.)

1. [ ] It is not necessary for applicant to provide a separate record of the substance of the interview.

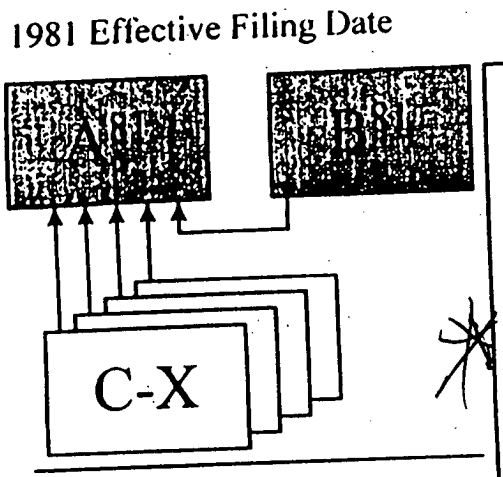
Unless the paragraph above has been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a response to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW.

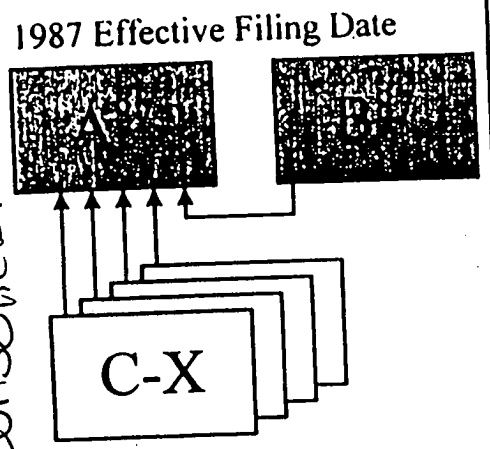
2. [ ] Since the Examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action. Applicant is not relieved from providing a separate record of the interview unless box 1 above is also checked.

(703) 308-6606

Examiner Note: You must sign and stamp this form unless it is an attachment to a signed Office action.

Attachment 1





1. Enter preliminary amendment to A adding: (a) all claims of applications C to X, and (b) all but one claim of application B.

2. Receive from PTO interview summary stating the origin of transferred claims and that all the claims are subject to examination in application A.

3. Expressly abandon applications C to X.

4. Maintain application B as a potential application for any claims not allowed.

Each Group of 52

Applicants propose amendments to claim language

Examiners prepare questions in response

1st Interview of Record

Off-record interviews with applicants and examiners

Any Claims to Appeal?

No

2d Interview of Record: 1. 112(1&2); 2. Pat. SM; 3. All issues resolved.

Yes

2d Interview of Record: Claims at issue moved to application B; cancelled from application A, if any.

Allowable claims to Appln. A

Office Action

Appln. B To Board of Appeals

Officially amend claims in application A and add any undisputed claim from application B.

Expressly abandon application B if no Appeal issues

Issue Application A

Applicants' allegation of consolidation.

Attachment 2

Interview Summary Attachment

Int. Summ that applicants alleged they would provide

USPTO Serial No. 08/AAA,AAA
Attorney Docket No. 05634.000A
Filing Date: August 30, 1993
Art Unit: 2737
Examiner: FAILE, A.

Applicants hereby present a preliminary amendment to the above-identified application adding the following claim(s) from the following application serial number(s), and hereby expressly abandon the following corresponding application(s) as indicated below:

Claims	Applications Serial No(s).	Expressly Abandon Application(s)
X	08/XXX,XXX	
Y	08/YYY,YYY	Abandoned
Z	08/ZZZ,ZZZ	Abandoned

The preliminary amendment adding the above-identified claims is hereby entered in the above-identified application and examined along with original claims XXX. An action on the merits is to follow.

Date:_____, 1999.

Attachment 3

DETAILED ACTION

1. This action is in response to ~~7/6/99~~. Remarks that exist for pending claims ~~2-24~~, have been considered but are moot in view of the new ground(s) of rejection.

Overview.

As a preliminary matter, it is understood that applicants and the PTO have agreed to consolidate co-pending applications from ~329 in number to ~78 in number wherein applicants "claim" priority benefit under Section 120 for ~41/78 to 9/11/87 ('87), and ~37/78 to 11/3/81 ('81). However, to date, applicants have failed to complete the consolidation. For example and for illustration, in the group of 37/78, examiner finds consolidation papers for **only** ~~3~~ of 37.[1] Applicants must understand that their failure, to date, to complete the consolation has contributed to delay in prosecution, noting that the agreement to consolidate was made over an **entire year ago**.[2] Clarification is requested for when applicants intend to carry forth completion of their

~~3~~ 10 of 3/15/00

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[1]See Appendix B for examiners count of cases having consolidation papers. It is noted, for ex, that "group" 8 fails to map the claims, and hence is not within consonance of agreement and therefore is recognized as an amendment to an outstanding office action.

[2]For illustration, it is noted that the co-pending application no. 08/474,964 (see "group" 30 in Appendix B) consolidation was received *3/9/99*. Therein, on page 9 (paper 20), applicants allege "In consonance with the agreement...Applicants...join the claims", etc.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	
John C. Harvey and James W. Cuddihy	Examiner: LUTHER
Serial No. 08/447,415	Group Art Unit: 2742
Filed: May 23, 1995	Atty. Docket. 05634.0129
For: **SIGNAL PROCESSING APPARATUS AND METHODS**	

BOX: ISSUE FEE - AMENDMENT

Assistant Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

I. REQUEST TO ENTER AMENDMENT AFTER NOTICE OF ALLOWANCE AND AFTER PAYMENT OF ISSUE FEE UNDER 37 C.F.R. § 1.312(A)

This amendment after the notice of allowance and payment of the issue fee is submitted in response to the interviews on June 16th, July 1st and 15th, 1999 and per request of the Examiners of the PTO. Applicants respectfully request that the following amendments be considered and entered into the above-captioned application and the claims be permitted to issue:

In the Claims:

Please amend claims 3, 4, 6-9 & 11-14 as follows:

3. (Three Times Amended) A method of controlling a remote station based on a broadcast or cablecast transmission, said method comprising the steps of:

(a) receiving a control signal from a first remote station;

(b) passing said control signal to a computer and causing said computer to compute a variable value in response to said control signal;

(c) generating, based on said computed variable value, [a software] an instruction module [based on said computed variable value] comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed upon command;

(d) embedding said generated [software] instruction module into an information transmission to be broadcast or cablecast; and

(e) transmitting said information transmission to [a] said second remote station in a broadcast or cablecast transmission.

In claim 4, line 2, please delete "software" and insert --generated instructions--.

In claim 6, line 1, please delete "software" and insert --generated instructions--.

In claim 7, line 2, please delete "software" and insert --generated instructions--.

8. (Amended) The method of claim 3, wherein said generated [software] instruction module is transmitted with a data module and said step of generating said [software] instruction module further comprises the steps of:

selecting some generally applicable video, audio, graphics, or text; and

placing said selected video, audio, graphics, or text in said data module.

In claim 9, line 1, please delete "software" and insert --generated instructions--.

11. (Three Times Amended) A remote station, comprising:

(a) receiving means for receiving a control signal from a first remote station;

(b) computation means coupled to said receiving means;

(c) transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of [a software] an instruction module comprising executable code, [based on said computed variable value,] said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command;

(d) embedding means for embedding said generated [software] at least a portion of said instruction module into an information transmission to be broadcast or cablecast; and

(e) broadcast transmission means for transmitting said information transmission to [a] said second remote station in a broadcast or cablecast transmission.

12. (Three Times Amended) A method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:

receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of [a software] an instruction module [based on said computed variable value] comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command;

receiving at least one transmitter control signal which operates at said [first] second remote station to embed said generated at least a portion of said instruction [software] module into an information transmission to be broadcast or cablecast, and transmit said information transmission to [a] said [second] third remote station in a broadcast or cablecast transmission; and

transmitting said at least one instruct signal and said at least one transmitter control signal to said first remote station.

13. (Three Times Amended) A method of controlling a remote station, comprising the steps of:

generating at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of [a software] an instruction

module comprising executable code, [based on said variable value] said at least said control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction [software] module in a broadcast or cablecast transmission; and

transmitting said at least one control signal to said remote station in an information transmission which contains video.

14. (Twice Amended) A method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:

(1) receiving an information transmission to be broadcast or cablecast;

(2) receiving at least one instruct signal which is effective to accomplish [at least one of]:

(a) effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of [a] an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, [based on said variable value,] and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission; and

(b) effecting said remote station to generate at least a portion of at least one second control signal, said at least one second control signal effective to cause a subscriber station at said remote station to compute a variable value in response to said at least one second control signal, generate at least a portion of a module based on said variable value, and transmit said module upon command;

(3) receiving at least one transmitter control signal which operates at said transmitter station to communicate at least one of (i) said at least one instruct signal and (ii) said at least one first control signal to a transmitter; and

(4) transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.

II. REMARKS

A. Summary of Amendments to the Claims

Claims 3, 4, 6-9 & 11-14 have been amended. Claims 3-14 remain pending in the application.

Independent claims 3, 11, 12, 13, and 14 are amended above to replace the phrase "software module" with "instruction module," at the request of the Examiners during the interview of July 15th, 1999. These claims, as amended above, further define the instruction module as including executable code, able to be transferred to a memory, and executed upon command. Claims 4 and 6-9 are amended above to refer to the "instruction module" as recited in claim 3.

Applicants respectfully submit that the above amendments include no new matter nor change the scope of the claims. The amendments are intended to clearly set forth and positively define attributes of the instruction modules. The language of the proposed amendment is fully supported by the specification as demonstrated below in Section D.

B. Response to Obvious-Type Double Patenting Allegation over Claims 9 & 12 of U.S. Pat. No. 5,109,414

1. PTO Assertions in the Interview of July 15th, 1999.

PTO generally asserts that claims 9 and 12 of U.S. Pat. No. 5,109,414 (hereafter, "the '414 patent") are patentably distinct from the invention defined by Applicants' independent claims, i.e., **3, 11, 12, 13 & 14** under the judicially created doctrine of obvious-type double patenting.

Additionally, the Examiner of record stated that:

1. the use of the entire patent '414 disclosure is applicable to determine the scope of the patented claims applied to the instant application's claims;

2. a combination of the claims in the '414 patent may used as basis for a double patenting rejection of the claims in the instant; and

3. the "comprising" language in the instant application's claims renders the claims obvious in light of the patent '414 claims.

2. Standard of Review for Obvious-Type Double Patenting Rejection

Under the doctrine of double patenting, the PTO must determine whether the invention defined by the application claims would have been obvious over the subject matter defined by the claims of the '414 patent, in light of the prior art. *In re Longi*, 225 USPQ 645, 648 (Fed. Cir. 1985).

An obvious-type double patenting rejection is analogous to the nonobviousness requirement of 35 U.S.C. 103 except that the patent principally underlying the double patenting rejection is not considered prior art. *In re Braithwaite*, 379 F.2d 594, 154 USPQ 29 (CCPA 1967). Therefore, any analysis employed in an obvious-type double patenting rejection parallels the guidelines

for analysis of a 35 U.S.C. 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). M.P.E.P. § 804 (II) B (1).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) that establish a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis. These factual inquiries are summarized as follows:

(A) Determine the scope and content of the patent claim and the prior art relative to the claim in the application at issue;

(B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;

(C) Determine the level of ordinary skill in the pertinent art; and

(D) Evaluate any objective indicia of nonobviousness. *M.P.E.P. § 804 (II) B (1).*

Given these standards for determination, Applicants fail to understand why the Examiner concluded that the term "comprising" in the application claim language could be used as basis for an obvious-type double patenting rejection over the subject matter defined by claims of the '414 patent. This conclusion failed to take into account any of the above factual inquiries in determining obvious-type double patenting.

3. Scope of Availability of the Patent Specification in Determining Obvious-Type Double Patenting

When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent, ***the disclosure of the patent may not be used as prior art.*** However, this

does not mean that the Examiner is precluded from the use of the patent disclosure.

There are two specific instances in which the specification can be used to determine the scope of the claim. (1.) In determining the meaning of a word in a claim, the specification may be examined. However, the words in a claim are generally not limited in their meaning by what is shown in the disclosure. (2.) In such instances where the disclosure will serve as a dictionary for the terms appearing in the patent, the disclosure may be used in interpreting the scope of the claim. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

The disclosure of the patent is only an aid in determining the scope of the claim. Proper examination in the instant application must first determine what portion of the '414 patent disclosure supports the invention of claims 9 & 12, since only these portions may be considered in interpreting the scope of the claim. Once the scope of the claim is determined, then one must ask whether the pending claim would have been an obvious variation over the patented claim in view of the prior art, not the patented claim in view of the patent specification.

Examiner's assertion that the *entire* patent disclosure is applicable to determine obviousness as applied to the instant application's claims is unfounded and unlawful. The use of broad assertions in the patent specification which do not support the patent claims at issue to determine obvious-type double patenting constitutes using the patent as prior art, which it is not. *In re Vogel, supra.*

Additionally, there is no legal authority to combine patented claims in a single application to determine obvious-type double patenting. As stated above, the specification may be used to solely determine the scope of the claims, not motivation for obvious-type double patenting rejections. Each of Applicants' patented claims represent single inventions supported by at least one

embodiment in the specification of the patent. Applicants' own patented inventions cannot be used against him as prior art in determining obvious-type double patenting since the patent disclosure may not be used as prior art. *In re Boylan*, 55 CCPA 1041, 392 F.2d 1017, 157 USPQ 370 (1968), *supra; In re Aldrich*, 55 CCPA 1431, 398 F.2d 855, 158 USPQ 311 (1968).

4. Applicants' Analysis as to Why Obvious-Type Double Patenting Rejection is Not Proper in the Instant Case

a. Specification Support for Claims 9 & 12 of U.S. Pat. No. 5,109,414.

Since M.P.E.P. § 804 II (B) 1 states that one must first determine how much of the patent disclosure pertains to the invention claimed in the patent because only [t]his portion of the specification supports the patent claims and may be considered, Applicants provide specification support for claims 9 and 12 of the '414 below to offer assistance in determining an exemplary portion of the patent disclosure pertaining to the invention claimed in the patent.

Claim 9 of the '414 patent is generally directed to a multichannel television distribution system in which a receiver/distributor means receives television programming from a plurality of program sources and directs the programming to a matrix switch means and a control signal detector means. There is a matrix switch means for receiving the programming from the receiver/distribution means and for directing selected portions of the received programming to a recording device operatively connected to a multichannel television distribution means. A control signal detector means detects control signals respecting the programming and transfers the control signals to a storage/transfer means. The control signal detector means is configured to detect the control signals in a predetermined frequency range or at

predetermined locations within the programming. A storage/transfer means receives and stores the control signals and transfers at least a portion of the control signals for further processing. A processor means controls the directing functions of the matrix switch means and the transfer functions of the storage/transfer means in response to the control signals or on local command.

Claim 9 of U.S. Pat. No. 5,109,414	Specification Support
9. In a multichannel television distribution system,	For the 1981 specification, please refer to Figs. 3A-C, as described from column 10 line 24 to column 12 line 67. For the 1987 specification, please refer to Figs. 6A-6B, as described from pages 324 to 374.
a **receiver/distributor means** for receiving television programmingfrom a plurality of program sources and directing said programming to	Distribution amplifiers 63-70.
a **matrix switch means** and	Matrix switch 75.
a **control signal detector means**,	Signal processor 71.
a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a **recording device**	*See* column 11 line 44 to column 12 line 12. Video recorder and players 76 & 78.
operatively connected to a **multichannel television distribution means**,	Cable field distribution system 93.
a **control signal detector means** for detecting	Signal processor 71.
control signals respecting said programming and transferring said control signals	Column 11 lines 3-11.
to a **storage/transfer means**,	Cable program and controller 73.
said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	*See* column 11 lines 3-11.
a **storage/transfer means** for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	Cable program and controller 73. *See* column 11 lines 3-11.
a **processor means** for controlling the directing functions of said matrix switch means and the	Cable program and controller 73.

transfer functions of said storage/transfer means in response to said control signals or on local command.	*See* column 11 line 44 to column 12 line 12.

Claim 12 of the '414 patent is generally directed to a multichannel television distribution system in which a receiver/distribution means receives television programming from a plurality of program sources and outputs the programming to a matrix switch means and a control signal detector and processor means. A matrix switch means receives the programming from the plurality of receiver/distribution means and outputs selected portions of the received programming to a multichannel television distribution means. A control signal detector and processor means detects the control signal respecting the programming and transfers the control signals to a storage/transfer means. The control signal detector and processor means is configured to detect the control signals in specified frequency ranges or at specified locations within the programming. The control signal detector and processor means controls the particular ranges and locations wherein the control signals are directed. A storage/transfer means receives and stores the control signals and transfers at least a portion of the control signals for further processing. A processor means controls the output functions of the matrix switch means and the transfer functions of the storage/transfer means in response to the control signals or on local command.

Claim 12 of U.S. Pat. No. 5,109,414	Specification Support
12. In a multichannel television distribution system,	For the 1981 specification, please refer to Figs. 3A-C, as described from column 10 line 24 to column 12 line 67. For the 1987 specification, please refer to Figs. 6A-6B, as described from pages 324 to 374.
a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and	Distribution amplifiers 63-70.

outputting said programming to a **matrix switch means** and a **control signal detector and processor means,**	Matrix switch 75. Signal processor 71.
a **matrix switch means** for receiving said programming from said **plurality of receiver/distribution means** and for outputting selected portions of said received programming to a **multichannel television distribution means,**	Matrix switch 75. Distribution amplifiers 63-70. Cable field distribution system 93.
a **control signal detector and processor means** for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	Signal processor 71. *See* column 11 lines 3-11.
a **storage/transfer means** for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	Cable program and controller 73. *See* column 11 lines 3-11.
a **processor means** for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	Cable program and controller 73. *See* column 11 line 44 to column 12 line 12.

b. Analysis of Claim 3 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 3
9. In a multichannel television distribution system,	3. A method of controlling a remote station based on a broadcast or cablecast transmission, said method comprising the steps of:
a **receiver/distributor means** for receiving television programmingfrom a plurality of program sources and directing said programming to a **matrix switch means** and a **control signal detector means,** a matrix switch	(a) receiving a control signal from a first remote station;

means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,	
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	(b) passing said control signal to a computer and causing said computer to compute a variable value in response to said control signal;
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	(c) generating, based on said computed variable value, an instruction module comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed upon command;
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	(d) embedding said generated instruction module into an information transmission to be broadcast or cablecast; and
	(e) transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(2) Patentable Distinctions of Claim 3 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 3 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a method of controlling a remote station based on a broadcast or cablecast transmission;

passing said control signal to a computer and causing said computer to compute a variable value in response to said control signal;

generating, based on said computed variable value, an instruction module comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed upon command;

embedding said generated instruction module into an information transmission to be broadcast or cablecast; and

transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 3 of the present application claims a method of controlling a remote station based on a broadcast or cablecast transmission. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 3 an obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 9 performs, *inter alia*, generating, based on said computed variable value, an instruction module comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed upon command and embedding said generated instruction module into an information transmission to be broadcast or cablecast as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 3 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

c. Analysis of Claim 11 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 11
9. In a multichannel television distribution system,	11. A remote station, comprising:
a receiver/distributor means for receiving television programmingfrom a plurality of program sources and directing said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,	(a) receiving means for receiving a control signal from a first remote station;
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	(b) computation means coupled to said receiving means;
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	(c) transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command;
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	(d) embedding means for embedding said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast; and
	(e) broadcast transmission means for transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(2) Patentable Distinctions of Claim 11 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 11 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a remote station, comprising:

transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command;

embedding means for embedding said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast; and

broadcast transmission means for transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 11 of the present application claims a remote station. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 11 an obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 9 comprises, *inter alia*, transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction

module to be transferred to a memory at a second remote station and executed upon command, as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 11 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

d. Analysis of Claim 12 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 12
9. In a multichannel television distribution system,	12. A method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:
a receiver/distributor means for receiving television programmingfrom a plurality of program sources and directing said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,	receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command;
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	receiving at least one transmitter control signal which operates at said second remote station to embed said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast, and transmit said information transmission to said third remote station in a broadcast or cablecast transmission; and
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	transmitting said at least one instruct signal and said at least one transmitter control signal to said first remote station.
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	

(2) Patentable Distinctions of Claim 12 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 12 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:

receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command;

receiving at least one transmitter control signal which operates at said second remote station to embed said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast, and transmit said information transmission to said third remote station in a broadcast or cablecast transmission; and

transmitting said at least one instruct signal and said at least one transmitter control signal to said first remote station.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 12 of the present application claims a method of controlling a remote station based on a broadcast or cablecast transmission. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 12 an

obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system disclosed in claim 9 performs, *inter alia*, receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 12 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

e. Analysis of Claim 13 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 13
9. In a multichannel television distribution system,	13. A method of controlling a remote station, comprising the steps of:
a receiver/distributor means for receiving television programmingfrom a plurality of program sources and directing said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,	generating at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of an instruction module comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission; and
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said	transmitting said at least one control signal to said remote station in an information transmission which contains video.

control signals in a predetermined frequency range or at predetermined locations within said programming,	
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	

(2) Patentable Distinctions of Claim 13 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 13 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a method of controlling a remote station, comprising the steps of:

generating at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of an instruction module comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission; and

transmitting said at least one control signal to said remote station in an information transmission which contains video.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 13 of the present application claims a method of controlling a remote station. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 13 an obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 9, *inter alia*, generates at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of an instruction module comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 13 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

f. Analysis of Claim 14 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 14
9. In a multichannel television distribution system,	14. A method of controlling a remote station based on a broadcast or cablecast transmission,

	comprising the steps of:
a **receiver/distributor means** for receiving television programming from a plurality of program sources and directing said programming to a **matrix switch means** and a **control signal detector means**, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a **recording device** operatively connected to a **multichannel television distribution means**,	(1) receiving an information transmission to be broadcast or cablecast;
a **control signal detector means** for detecting control signals respecting said programming and transferring said control signals to a **storage/transfer means**, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	(2) receiving at least one instruct signal which is effective to accomplish: (a) effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission; and (b) effecting said remote station to generate at least a portion of at least one second control signal, said at least one second control signal effective to cause a subscriber station at said remote station to compute a variable value in response to said at least one second control signal, generate at least a portion of a module based on said variable value, and transmit said module upon command;
a **storage/transfer means** for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	(3) receiving at least one transmitter control signal which operates at said transmitter station to communicate at least one of (i) said at least one instruct signal and (ii) said at least one first control signal to a transmitter; and
a **processor means** for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	(4) transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.

(2) Patentable Distinctions of Claim 14 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 14 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:

receiving at least one instruct signal which is effective to accomplish:

effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission; and

effecting said remote station to generate at least a portion of at least one second control signal, said at least one second control signal effective to cause a subscriber station at said remote station to compute a variable value in response to said at least one second control signal, generate at least a portion of a module based on said variable value, and transmit said module upon command;

receiving at least one transmitter control signal which operates at said transmitter station to communicate at least one of (i) said at least one instruct signal and (ii) said at least one first control signal to a transmitter; and

transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 14 of the present application claims a method of controlling a remote station based on a broadcast or cablecast transmission. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 14 an obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 9, *inter alia*, receiving at least one instruct signal which is effective to accomplish: effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission..., as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 14 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

g. Analysis of Claim 3 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 3
12. In a multichannel television distribution system,	3. A method of controlling a remote station based on a broadcast or cablecast transmission, said method comprising the steps of:
a **plurality of receiver/distribution means** for receiving television programming from a plurality of program sources and outputting said programming to a **matrix switch means** and a **control signal detector and processor means**,	(a) receiving a control signal from a first remote station;
a **matrix switch means** for receiving said programming from said **plurality of receiver/distribution means** and for outputting selected portions of said received programming to a **multichannel television distribution means**,	(b) passing said control signal to a computer and causing said computer to compute a variable value in response to said control signal;
a **control signal detector and processor means** for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	(c) generating, based on said computed variable value, an instruction module comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed upon command;
a **storage/transfer means** for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	(d) embedding said generated instruction module into an information transmission to be broadcast or cablecast; and
a **processor means** for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	(e) transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(2) Patentable Distinctions of Claim 3 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 3 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a method of controlling a remote station based on a broadcast or cablecast transmission;

passing said control signal to a computer and causing said computer to compute a variable value in response to said control signal;

generating, based on said computed variable value, an instruction module comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed upon command;

embedding said generated instruction module into an information transmission to be broadcast or cablecast; and

transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 3 of the present application claims a method of controlling a remote station based on a broadcast or cablecast transmission. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 3 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 12 performs, *inter alia*, generating, based on said computed variable value, an instruction module comprising executable code, said generated instruction module to be transferred to a memory at a second remote station and executed

upon command and embedding said generated instruction module into an information transmission to be broadcast or cablecast as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 3 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

h. Analysis of Claim 11 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 11
12. In a multichannel television distribution system,	11. A remote station, comprising:
a **plurality of receiver/distribution means** for receiving television programming from a plurality of program sources and outputting said programming to a **matrix switch means** and a **control signal detector and processor means**,	(a) receiving means for receiving a control signal from a first remote station;
a **matrix switch means** for receiving said programming from said **plurality of receiver/distribution means** and for outputting selected portions of said received programming to a **multichannel television distribution means**,	(b) computation means coupled to said receiving means;
a **control signal detector and processor means** for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	(c) transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command;
a storage/transfer means for receiving and	(d) embedding means for embedding said

storing said control signals and for transferring at least a portion of said control signals for further processing, and	generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast; and
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	(e) broadcast transmission means for transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(2) Patentable Distinctions of Claim 11 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 11 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a remote station, comprising:

transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command;

embedding means for embedding said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast; and

broadcast transmission means for transmitting said information transmission to said second remote station in a broadcast or cablecast transmission.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 11 of the present application claims a remote station. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the

time of the invention would have possessed that would render claim 11 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 12 comprises, *inter alia*, transmission means for passing said control signal to said computation means, wherein said computation means computes a variable value in response to said control signal and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command, as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 11 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

i. Analysis of Claim 12 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 12
12. In a multichannel television distribution system,	12. A method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:
a **plurality of receiver/distribution means** for receiving television programming from a plurality of program sources and outputting said programming to a **matrix switch means** and a **control signal detector and processor means**,	receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command;
a **matrix switch means** for receiving said programming from	receiving at least one transmitter control signal which operates at said second remote station to

said **plurality of receiver/distribution means** and for outputting selected portions of said received programming to a **multichannel television distribution means,**	embed said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast, and transmit said information transmission to said third remote station in a broadcast or cablecast transmission; and
a **control signal detector and processor means** for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	transmitting said at least one instruct signal and said at least one transmitter control signal to said first remote station.
a **storage/transfer means** for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	
a **processor means** for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	

(2) Patentable Distinctions of Claim 12 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 12 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:

receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at

least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command;

receiving at least one transmitter control signal which operates at said second remote station to embed said generated at least a portion of said instruction module into an information transmission to be broadcast or cablecast, and transmit said information transmission to said third remote station in a broadcast or cablecast transmission; and

transmitting said at least one instruct signal and said at least one transmitter control signal to said first remote station.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 12 of the present application claims a method of controlling a remote station based on a broadcast or cablecast transmission. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 12 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system disclosed in claim 12 performs, *inter alia*, receiving at least one instruct signal which is effective to cause a first remote station to generate at least a portion of a control signal which is effective to cause a second remote station to compute a variable value in response to said control signal and generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command as the instant claim specifies. For this reason, *inter alia*, given the

patentable distinctions as outlined above, claim 12 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

j. Analysis of Claim 13 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 13
12. In a multichannel television distribution system,	13. A method of controlling a remote station, comprising the steps of:
a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and outputting said programming to a matrix switch means and a control signal detector and processor means,	generating at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of an instruction module comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission; and
a matrix switch means for receiving said programming from said plurality of receiver/distribution means and for outputting selected portions of said received programming to a multichannel television distribution means,	transmitting said at least one control signal to said remote station in an information transmission which contains video.
a control signal detector and processor means for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations	

wherein said control signals are detected,	
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	

(2) Patentable Distinctions of Claim 13 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 13 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a method of controlling a remote station, comprising the steps of:

generating at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of an instruction module comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission; and

transmitting said at least one control signal to said remote station in an information transmission which contains video.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 13 of the present application claims a method of controlling a remote station. There is no teaching in the prior art nor any knowledge one of

ordinary skill in the art at the time of the invention would have possessed that would render claim 13 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 12, *inter alia*, generates at least a control portion of at least one control signal, said at least one control signal effective to cause said remote station to (1) compute a variable value in response to said at least one control signal, (2) generate, based on said variable value, at least a control portion of an instruction module comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 13 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

k. Analysis of Claim 14 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 14
12. In a multichannel television distribution system,	14. A method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:
a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and outputting said programming to a matrix switch means and a control signal detector and processor means,	(1) receiving an information transmission to be broadcast or cablecast;
a matrix switch means for receiving said	(2) receiving at least one instruct signal which is

programming from said **plurality of receiver/distribution means** and for outputting selected portions of said received programming to a **multichannel television distribution means,**	effective to accomplish: (a) effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission; and (b) effecting said remote station to generate at least a portion of at least one second control signal, said at least one second control signal effective to cause a subscriber station at said remote station to compute a variable value in response to said at least one second control signal, generate at least a portion of a module based on said variable value, and transmit said module upon command;
a control signal detector and processor means for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	(3) receiving at least one transmitter control signal which operates at said transmitter station to communicate at least one of (i) said at least one instruct signal and (ii) said at least one first control signal to a transmitter; and
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	(4) transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	

(2) Patentable Distinctions of Claim 14 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 14 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a method of controlling a remote station based on a broadcast or cablecast transmission, comprising the steps of:

receiving at least one instruct signal which is effective to accomplish:

effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission; and

effecting said remote station to generate at least a portion of at least one second control signal, said at least one second control signal effective to cause a subscriber station at said remote station to compute a variable value in response to said at least one second control signal, generate at least a portion of a module based on said variable value, and transmit said module upon command;

receiving at least one transmitter control signal which operates at said transmitter station to communicate at least one of (i) said at least one instruct signal and (ii) said at least one first control signal to a transmitter; and

transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 14 of the present application claims a method of controlling a remote station based on a broadcast or cablecast transmission. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 14 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 12, *inter alia*, receiving at least one instruct signal which is effective to accomplish: effecting a transmitter station to generate at least a portion of at least one first control signal, said at least one first control signal effective to cause said remote station to compute a variable value in response to said at least one first control signal, generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission..., as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 14 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

C. General Overview and Summary of Applicants' 1987 Disclosure

While the Examiners suggest that Applicants' 1987 disclosure may appear to contain a series of isolated examples, Applicants maintain that their examples are carefully tied together. An essential feature of Applicants' disclosure in the specification is that they explain their invention and the various embodiments thereof and their interrelationship. The following description provides the complete context of the disclosure, illuminating important timing and error correction considerations and explaining the interrelationship of Applicants' full system.

One clear series of teachings is focused around the "Wall Street Week" combined image of Fig. 1C. A first part of this image is received in a television signal. Fig. 1B shows this first part. A second part, Fig. 1A, is generated at the viewer station by processing data, which exists at the viewer station, in response to control instructions which are detected in the television signal. In a section entitled "One Combined Medium" (pages 19-28) at the beginning of the Description of the Preferred Embodiments, a sequence of events associated with the display of Fig. 1C is disclosed. A first series of instructions invoke broadcast control (defined at page 23 lines 24-26), which includes clearing video RAM. A second series of instructions construct the Fig. 1A image at video RAM. The Fig. 1B image is received in the "Wall Street Week" program, and is explained by the program host as showing the performance of the Dow Industrials. When the host says, "And here is what your portfolio did," an instruction in the television signal executes "GRAPHICS ON" which combines the Figs. 1A and 1B images and displays Fig. 1C. After an interval of time during which corresponding personalized programming is displayed simultaneously to every properly equipped member of the "Wall Street Week" audience, an instruction executes

"GRAPHICS OFF" and causes Fig. 1A no longer to be displayed. The disclosure defines "combining synch command" at page 26 lines 20-24, and explains that instructions that construct the Fig. 1A, execute "GRAPHICS ON", and execute "GRAPHICS OFF" each comprise a combining synch command. Subsequently, these are referred to throughout the disclosure as the **"first", "second", and "third combining synch commands of the 'Wall Street Week' example".**

After providing a detailed disclosure of apparatus of the invention (called "SPAM" apparatus) and of the composition of messages and message streams, four examples, between pages 108 and 248, disclose alternate ways of processing the first, second, and third combining synch commands of the 'Wall Street Week' example. These examples reference Fig. 3. Example #1 describes transferring the messages to an addressed controller and causing the controller to respond. Examples #2 and #4 disclose alternate decryption techniques whereby portions of the message stream containing the three combining synch commands are selectively decrypted. Examples #3 and #4, which reference Fig. 3A as the controller of decoders 203 and 205C, disclose the collection of metering data (e.g., for billing purposes) and monitoring data (e.g., for TV viewership ratings) based on content of the first two combining synch commands. Each example discloses control of a sequence of events, and describes carefully how its sequence occurs within the broader context of "One Combined Medium" at pages 19-28. Specifically each of examples #1, #2, #3, and #4 elaborates on the portion of "One Combined Medium" from page 24 line 1 to page 27 line 7. In these four examples, each later example builds upon concepts disclosed and definitions provided in the earlier examples.

Example #5 (pages 248-271) focuses on functions performed by Signal Processor 200 in Fig. 3 *concurrently with* the sequence of events described in "One Combined Medium" *and at apparatus which perform* the metering and monitoring

of examples #3 and #4. The first combining synch command of the "Wall Street Week" example is also processed in example #5. Example #5 introduces concepts that are subsequently used (e.g., in example #7) to teach automatic selection of programming, including the "Wall Street Week" program itself. At pages 271-278, the disclosure explains how the metering and monitoring, in particular of the first combining synch command of the "Wall Street Week" example, causes the content of recorder 16 to exceed a predetermined level which causes the Signal Processor to telephone a remote data collection station and dump the content of recorder 16 to the remote station.

Example #7, which occurs at pages 288-312 and 427-447 and incorporates concepts of example #6, teaches selection of the "Wall Street Week" program itself, interconnection of subscriber station apparatus to provide station specific processing *alternatives* based on pre-stored instructions, and decryption of the "Wall Street Week" program transmission. The disclosure teaches (e.g., page 311 lines 10-16) how this causes the station (now of Fig. 4 or Fig. 7 which are subscriber stations of the intermediate transmission station of Fig. 6) to perform the functions "One Combined Medium" and examples #1-#4.

The disclosure also cites (pages 322-333) and sites the "Wall Street Week" monitoring and metering functions within the extended Fig. 5 monitoring disclosed at pages 312-314.

In "Controlling Computer-Based Combined Media Operations" (pages 447-457), the disclosure teaches how the "Wall Street Week" subscriber portfolio contents and stock price data come to be up-to-date when the program begins, teaches that the Fig. 1C combining is the first of a series of overlays, teaches error detection techniques to prevent the display of incorrect or incomplete overlays, and teaches error correction techniques to enable slow viewer station computers that fall behind to catch up.

A second clear series of teachings is focused around a television spot commercial called program unit Q.

Within the disclosure of automated intermediate transmission station functionality that begins at page 324, program unit Q is introduced at page 331 lines 21-22 in a passage that teaches organizing units of prerecorded programming to play according to schedule.

Example #8 (pages 340-354) discloses that program unit Q is a television spot commercial and teaches how it is transmitted with other spot commercials from a satellite up-link to automated cable TV head-ends which are caused automatically to select, store, and retransmit the spot commercials at different times and on different channels.

Example #9 (pages 354-374) discloses that program unit Q is a combined medium television spot commercial and teaches how one of the automated head-ends of example #8 creates and transmits according to a schedule a time specific and transmitter specific control signal with data that applies to specials and discounts in a local supermarket at the scheduled time of transmission. The relationship of examples #8 and #9 is discussed at page 355 lines 15-32.

Example #10 (pages 374-390) teaches how the automated head-end (as one of a plurality of such head-ends each) creates the time specific and transmitter specific control signal with data and inserts the control signal into a network broadcast of combined medium program unit Q.

The subscriber station functionalities associated with both examples #9 and #10 (see page 469 line 1) are taught at pages 469-516. Each of a plurality of viewer stations creates receiver specific output in response to the control signal(s) as well as selecting viewer specific output from among the transmitted transmitter specific data. Each outputs its output in a series of time intervals of specific relevance. The relationship of pages 469-514 to pages 324-390 is explicit

and unmistakable in that every disclosure (e.g., 354-374, 374-390, and 469-516) teaches a sequence of more than thirteen messages with matching names. These include, for example, the **"transmit-and-execute-program-instruction-set message"** (page 371 lines 9-10, page 385 lines 7-8, and page 484 lines 1-2) and **"program-instruction-set message"** (page 371 lines 17-19, page 385 lines 14-16, and 484 line 5). Furthermore, corresponding named ones of these messages are disclosed in each respective passage (e.g., 354-374, 374-390, and 469-516) to have functionally identical content and to cause identical functioning at the subscriber stations. The passage at page 514 lines 8-30 states this.

Having disclosed all the individual elements and procedures of their system, Applicants finish their disclosure by describing a cycle in "Summary Example #11". The cycle involves controlling the disclosed system on a large scale to interconnect and distribute information to users, create control signals, create output in response to the control signals, display and explain the information and output, and receive and process feedback in order to repeat the cycle. Important disclosed functions such as preprogramming operating system instructions (page 537), creation of control signals (pages 541-547), creation of output for display (e.g., pages 548-551), display of the output (e.g., middle of page 552 to top of page 554), reception of feedback (pages 555-556), and distribution of new information based on the feedback (page 556) are cited in specific sequence and make clear reference to the pertinent portions of the specification that disclose these important functions.

D. Specification Support of the Claims

Applicants provide the following specification support for all pending claim language per the request of the Examiner.

1. Claim 3

In example #9/#10 of the 1987 patent specification, a cable system head end is scheduled to transmit a supermarket TV commercial and stores data related to the TV commercial. The commercial advertises a product whose price varies from time to time according to changing local supermarket discounts and specials, and the stored data specify the particular discounts and specials that apply at the scheduled time of transmission. The head end receives a control signal (e.g., a control program) from a remote satellite uplink. The control signal causes a computer at the head end to compute values associated with the applicable discounts and specials and incorporate the values into computer code which will control a viewer station to display the commercial to a viewer with relevant personal data of the discounts and specials. The head end generates computer program and data modules that contain the code and data to accomplish the display. At the scheduled time of transmission, the modules are embedded into a multichannel cable signal and transmitted to the viewer station with the commercial.

With regard to the functioning of the transmitter station, claim 3 finds support at pages 374-390 of the specification. The corresponding functionality of the receiver station is supported at pages 468-516. (As explained above in section C the correspondence between these two passages is clear through the use of a narrative sequence in each passage which uses carefully defined message names and processing functions associated with more than thirteen messages.) Claim 3 is also supported independently at pages 354-374 of the specification, although not shown in the table below.

Claim Language	Spec. Reference	Specification Language
A method of controlling **a remote station**	Page 374 line 29-31	An example #10, focuses on combined medium network control of intermediate transmission stations, controlling ultimate

		receiver stations.
	Page 470 lines 9-10.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6),
based on a broadcast or cablecast transmission, said method comprising the steps of:	page 324 lines 11-19.	The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station
(a) receiving a control signal	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 378 lines 4-6 with	Transmitting said generate-set-information message (#10) causes said dedicated decoders to detect and input said message ....
	page 59 lines 29-31;	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
from a first remote station;	page 377 lines 26-34.	Then the program originating studio at said network originating and control station, embeds in said normal transmission location and transmits a SPAM message that is addressed to ITS computers, 73, and consists of a "01" header, a particular execution segment, appropriate meter- monitor information, padding bits as required, information segment information of the aforementioned intermediate generation set of Q, and an end of file signal. (Hereinafter, said message is called the "generate-set-information message (#10)".)
(b) passing said control signal to a computer and	Page 378 lines 4-9;	Transmitting said generate-set-information message (#10) causes said dedicated decoders to detect and input said message to the computers, 73, of said stations. Receiving said message at said computers, 73, causes each of said computers, 73, to load information of said

		intermediate generation set at particular RAM.
causing said computer to compute a variable value	page 379 lines 6-10;	information of said intermediate generation set causes the computer, 73, in precisely the fashion that applied in example #9, to compute the value of a particular variable b to be 62.21875; to computes the value of a particular variable c to be 2.117
in response to said control signal;	page 379 lines 5-6.	At the station of Fig. 6, for example, executing the information of said intermediate generation set causes
(c) generating, based on said computed variable value, an instruction module	Page 379 lines 5-31.	...to computes the value of a particular variable c to be 2.117; and to replaces particular variable values, a, b, and c, in a particular so-called "higher language line of program code" to become formula-and-item-of- this-transmission information of: Y = 1000.00 + 62.21875 + (2.117 * X) to select, compute, and replace other variable information until complete program instruction set information exists in higher language code at particular memory; to compile said higher language information; to link the information so complied with other compiled information; and to record the information so computed, compiled, and linked (which is complete information the program instruction set of Q of the station of Fig. 6) in a file named "PROGRAM.EXE", in a fashion well known in the art, on a computer memory disk of computer, 73. In so doing, said computer, 73, generates the specific program instruction set version--that is, the program instruction set of Q.1--that applies to the particular discounts and specials in effect at the particular markets in the vicinity of said station and at the particular time of the network transmission of Q.
	Page 364 line 25 through page 365 line 21.	Automatically, computer, 73, selects and computes information of other variables and replaces other variable values of said generally applicable program instruction set information until a complete instance of higher language code of said program instruction set with all required formula-and-item-of-this-transmission information has been generated and exists at particular memory. Automatically, computer, 73,

		compiles the information of said instance and places the resulting so-called "object module" at particular memory (which compiling could be done, in the case of a program written in IBM BASIC, with the IBM BASIC Compiler of the IBM Personal Computer Computer Language Series). Automatically, computer, 73, links the information of said object module with information of other compiled object modules that exist in memory at computer, 73, (and may have been transmitted to computer, 73, in the generally applicable program instruction set information if said intermediate generation set); generates a particular PROGRAM.EXE output file that is said program instruction set; and places said file at particular program-set-to-transmit memory of computer, 73, (which linking could be done, in the case of a program compiled by the IBM BASIC Compiler with the linker program of the IBM Disk Operating System of the IBM Personal Computer Computer Language Series). One of said other compiled object modules is a module that, when accessed in a fashion well known in the art, computes the shortest vehicle driving distance between any two locations in the local vicinity of the station of Fig. 6 when passed two street addresses of said vicinity. (Hereinafter, the program instruction set generated in example #9, under control of said intermediate generation set of Q, is called the "program instruction set of Q".)
comprising executable code,	Page 379 lines 6-9 with	...information of said intermediate generation set causes the computer, 73, in precisely the fashion that applied in example #9, to compute the value of a particular variable b to be 62.21875;
	page 16 lines 20-23.	Flexibility must exist for expanding the capacity of installed systems by means of transmitted software....
said generated instruction module to be transferred to a memory at a second remote station and executed upon command;	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message

		(which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
(d) embedding said generated instruction module into an information transmission	Page 386 lines 7-14 with	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.
	page 385 lines 24-34 and	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular program-instruction-set message (#10) of said computer, 73.
	page 382 lines 1-5;	Executing said instruction information causes said computers, 73, each to load the information of said files, PROGRAM.EXE and DATA_OF.ITS, at particular program-set-to-transmit and data-set-to-transmit RAM memories of computer, 73,....
to be broadcast or cablecast; and	page 324 lines 11-19.	The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station
(e) transmitting said information	Page 386 lines 12-14 and	thereby transmitting the particular program-instruction-set message (#10) of said station

transmission to said second remote station in a broadcast or cablecast transmission.	page 484 lines 1-11;	to said system, 93. Then said studio transmits said transmit-and-execute- program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific program-instruction-set message (#10), as described above. Receiving the specific program-instruction-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the PROGRAM.EXE information in said message at particular RAM and execute the information so loaded as a machine language job.

2. Claim 4

Claim Language	Spec. Reference	Specification Language
The method of claim 3, further comprising the step of programming said computer to generate at least a portion of said generated instruction module in response to said control signal.	Page 355 lines 18 through page 356 line 13.	Computer, 73, is preprogrammed to process combined medium programming. When the aforementioned remote distribution station inputs information to computer, 73, via network, 98, regarding unit Q, said distribution station inputs information that Q is particular combined medium programming and instructs computer, 73, to commence particular program instruction set generation in a particular fashion at a particular time interval prior to the scheduled playing of Q. (Hereinafter, a particular instance of such a time period is called "interval," as in "interval Q" of unit Q.) Inputting said information and instructions causes Computer, 73, to record said information and instructions in its record keeping fashion together with the scheduled generation time which computer, 73, calculates as the scheduled play time minus interval Q. Prior to the scheduled generation time, particular local-formula-and-item information is inputted to computer, 73, regarding the formulas and items that apply in the case of this particular transmission of Q. (In other words, said local-formula-and-item information reflects specific information such as the particular discounts and cents-off coupon specials that apply at the scheduled time of the transmission of unit Q at the

		particular supermarket or markets that are local to the station of Fig. 6.) Said information may be inputted from local input, 74, or over network, 98, and computer, 73, records said information in a predetermined fashion. Computer program instructions, of the sort well known in the art, are also inputted to computer, 73, and computer, 73, is caused to execute said instructions. Executing said instructions causes computer, 73, to generate information of a program instruction set.

3. Claim 5

Claim Language	Spec. Reference	Specification Language
The method of claim 3, further comprising the step of placing said computed variable value into higher language code.	Page 379 lines 10-19.	to replaces particular variable values, a, b, and c, in a particular so-called "higher language line of program code" to become formula-and-item-of- this-transmission information of: $Y = 1000.00 + 62.21875 + (2.117 * X)$ to select, compute, and replace other variable information until complete program instruction set information exists in higher language code at particular memory;....
	Page 361 lines 14-18.	The cost of a unit of pork belly product for any given subscriber is computed according to a particular formula: $Y = a + b + c(X)$ (1)

4. Claim 6

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein at least some of said generated instruction module is generated by compiling higher language code.	Page 379 lines 19-20 and lines 26-31.	to compile said higher language information; In so doing, said computer, 73, generates the specific program instruction set version--that is, the program instruction set of Q.1--that applies to the particular discounts and specials in effect at the particular markets in the vicinity of said station and at the

		particular time of the network transmission of Q.

5. Claim 7

Claim Language	Spec. Reference	Specification Language
The method of claim 6, further comprising the step of linking at least some of said generated instruction module.	Page 379 lines 20-21.	to link the information so complied with other compiled information;

6. Claim 8

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said generated instruction module is transmitted with a data module and said step of generating said instruction module further comprises the steps of:	Page 380 lines 5-6; Page 379 line 31 to page 380 line 6.	said computer, 73, generates said data module set of Q.1. In precisely the fashion that applied in example #9, executing the information of said intermediate generation set causes said computer, 73, to select data, from among the local-formula-and-item information of said station, including the aforementioned "Nabisco Zweiback Teething Toast" and the street address of every one of said supermarket chain's markets in the local vicinity of the station of Fig. 6, and to record said selected data on said memory disk in a data file named DATA_OF.ITS. In so doing, said computer, 73, generates said data module set of Q.1.
selecting some generally applicable video, audio,	Page 357 lines 21-24. Page 366 lines 4-6. Page 494 lines 3-8.	Any given intermediate generation set contains generally applicable information of the particular program instruction set whose generation it causes. Generally applicable information is specific. binary video image information of several telephone numbers, So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an

		announcer's voice saying "low-salt Vindaloo" from among the information of its D:DATA_OF.ITS file and to place said selected information at said audio RAM.
graphics, or	Page 506 lines 13-21.	At the station of Fig. 7 and 7F, receiving said 5th commence- outputting message (#10) causes decoder, 203, to execute "GRAPHICS ON" at the PC-MicroKey system of microcomputer, 205. Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
text; and	Page 365 line 34. *See also* page 496.	"Nabisco Zwieback Teething Toast."
placing said selected video, audio, graphics, or text in said data module.	Page 366 lines 11-18.	Automatically, computer, 73, places said selected information (and any other information so selected) in a particular file called DATA_OF.ITS until the information of said file constitutes a complete instance of a particular data module set of Q. (Hereinafter, the data module set generated in example #9, under control of said intermediate generation set of Q, is called the "data module set of Q".)

7. Claim 9

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said generated instruction module enables said remote station		
to receive	Page 501 lines 16-25.	Automatically, under control of said instructions, microcomputer, 205, clears video RAM; sets the background color of video RAM to a transparent overlay black; determines that the aforementioned 1st working memory of said microcomputer, 205, holds southwest-quadrant information; selects from said D:DATA_OF.ITS file

		information of the aforementioned southwest delivery route telephone number, "456-1414", and causes binary image information of said number to be placed at bit locations that produce video image information in the lower middle portion of a video screen.
or present to a subscriber at least a portion of mass medium programming.	Page 506 lines 17-21.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.

8. Claim 10

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said control signal designates		
video,	Page 501 lines 16-25.	Automatically, under control of said instructions, microcomputer, 205, clears video RAM; sets the background color of video RAM to a transparent overlay black; determines that the aforementioned 1st working memory of said microcomputer, 205, holds southwest-quadrant information; selects from said D:DATA_OF.ITS file information of the aforementioned southwest delivery route telephone number, "456-1414", and causes binary image information of said number to be placed at bit locations that produce video image information in the lower middle portion of a video screen.
audio,	Page 489 lines 30-32.	selects the audio information of an announcer's voice saying "forty-three" from its file, D:DATA_OF.ITS; and places said information at said audio RAM.)
graphics, or	Page 506 lines 13-21.	At the station of Fig. 7 and 7F, receiving said 5th commence- outputting message (#10) causes decoder, 203, to execute "GRAPHICS ON" at the PC-MicroKey system of microcomputer, 205. Automatically,

		microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
text,	Page 495 line 34 to page 496 line 3.	Automatically, microcomputer, 205, transmits additional print information of said program instruction set of Q.1 to printer, 221, causing printer, 221, to print: "in exchange for this coupon and the sum of" and "$".
said method further comprising the step of transmitting said designated video, audio, graphics or text.	Page 386 lines 12-14, and	to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.
	page 384 line 35 to page 385 line 2.	to the field distribution system, 93, of said station, thereby transmitting the particular data-module-set message (#10) of said station to said system, 93.

9. Claim 11

The claim is directed to the apparatus that perform the receiving, computing, passing, embedding, and transmitting functions of claim 3. As with claim 3, regarding the functioning of the transmitter station, support is found at pages 374-390 of the specification. The corresponding functionality of the receiver station is supported at pages 468-516. Claim 11 is also supported independently at pages 354-374 of the specification, although not shown in the table below.

Claim Language	Spec. Reference	Specification Language
A remote station, comprising:	Page 375 lines 3-4.	The station of Fig. 6 is one intermediate transmission station controlled by said studio.
(a) receiving means	Page 375 line 5.	The station of Fig. 6 receives said network transmission at receiver, 53,....
for receiving a control signal	Page 377 line 4-35.	Then the program originating studio at said network originating and control station, embeds in said normal transmission location

		and transmits a SPAM message that is addressed to ITS computers, 73, and consists of a "01" header, a particular execution segment, appropriate meter- monitor information, padding bits as required, information segment information of the aforementioned intermediate generation set of Q, and an end of file signal. (Hereinafter, said message is called the "generate-set-information message (#10)".)
	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
from a first remote station;	Page 377 lines 26-27.	Then the program originating studio at said network originating and control station,...
(b) computation means	Page 378 line 8.	Receiving said message at said computers, 73, causes each of said computers, 73, to load information....
coupled to said receiving means;	Page 375 line 5.	The station of Fig. 6 receives said network transmission at receiver, 53,....
(c) transmission means for passing said control signal to said computation means,	Page 378 lines 5-6.	Transmitting said generate-set-information message (#10) causes said dedicated decoders to detect and input said message to the computers, 73, of said stations.
wherein said computation means computes a variable value in response to said control signal	Page 379 line 5-10,	At the station of Fig. 6, for example, executing the information of said intermediate generation set causes the computer, 73, in precisely the fashion that applied in example #9, to compute the value of a particular variable b to be 62.21875; to computes the value of a particular variable c to be 2.117;....
and generates, based on said computed variable value, at least a portion of an instruction module comprising executable code,	and, lines 11-31.	...and to replaces particular variable values, a, b, and c, in a particular so-called "higher language line of program code" to become formula-and-item-of- this-transmission information of: Y = 1000.00 + 62.21875 + (2.117 * X) to select, compute, and replace other variable information until complete program instruction set information exists in higher language code at particular memory; to compile said higher language information; to

		link the information so complied with other compiled information; and to record the information so computed, compiled, and linked (which is complete information the program instruction set of Q of the station of Fig. 6) in a file named "PROGRAM.EXE", in a fashion well known in the art, on a computer memory disk of computer, 73. In so doing, said computer, 73, generates the specific program instruction set version--that is, the program instruction set of Q.1--that applies to the particular discounts and specials in effect at the particular markets in the vicinity of said station and at the particular time of the network transmission of Q.
said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command;	Page 484 lines 12-18. cf. page 364 line 25 to page 365 line 21, and page 16 lines 20-23.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
(d) embedding means for embedding said generated at least a portion of said instruction module into an information transmission	Page 386 lines 9-12.	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.
to be broadcast or cablecast; and	Page 324 line 11-19.	The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
(e) broadcast transmission means for transmitting said	Page 375 line 6.	and retransmits said transmission immediately via modulator, 83.

information transmission		
to said second remote station	Page 484 lines 12-14.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203,
in a broadcast or cablecast transmission.	Page 324 lines 11-19.	The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.

10. Claim 12

In example #11, a satellite receives signals from a European Economic Community master transmitter station and retransmits the signals to a national transmitter station of an EEC member nation. The signals include a first computer program and a control signal. The first computer program and control signal cause the national transmitter station to generate a second computer program and transmit the second computer program to a local transmitter station. The second computer program causes the local transmitter station to generate a third computer program. The second computer program causes the local transmitter to generate a third computer program which is transmitted to and controls a subscriber station.

Claim 12 finds support at pages 533-556 of the specification.

Claim Language	Spec. Reference	Specification Language
A method of controlling	Page 541 lines 29-34,	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national

		level intermediate generation set.
	and page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
a remote station based on a broadcast or cablecast transmission, comprising the steps of:	Page 534 lines 28-33.	Each nation has a national intermediate transmission station that is identical to the intermediate station of Fig. 6 except that it transmits output information of several individual television channels to receiver stations via a satellite in geosynchronous orbit over Europe rather than via a cable field distribution system.
receiving at least one instruct signal	Page 536 lines 4-6.	...programming transmitted via satellite by a particular European master network origination and control station....
	Page 541 lines 29-34.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set.
which is effective to cause a first remote station	Page 534 lines 28-33.	See above.
to generate at least a portion of a control signal	Page 543 lines 20-25+.	In the mean time, executing their inputted information of said national level intermediate generation set causes the computers, 73, of said national intermediate stations each to generate information of a specific local level intermediate generation set ....
which is effective to cause a second remote station	Page 535 lines 18-22.	Each local government has a local intermediate transmission station that is identical to the intermediate station of Fig. 6 and that transmits multiplexed output information of several separate television channels via a cable field distribution system.
to compute a variable value in response to said control signal and	Page 545 lines 11-23.	Executing the information of its local level set causes the computer, 73, of each local intermediate station to access its specific LOCAL.TAX and LOCAL.EMP files and to compute formula-and-item

		-of-this-transmission information of specific local income and property tax formulas and local employment subsidy formulas....
generate, based on said computed variable value, at least a portion of an instruction module comprising executable code, said generated at least a portion of said instruction module to be transferred to a memory at a third remote station and executed upon command;	Page 545 lines 7-8. Page 24 lines 14-16.	...to generate information of a specific program instruction set in the fashion that executing the intermediate generation set of Q caused different intermediate stations in example #10 to generate their specific program instruction sets of Q.1 or Q.2. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
receiving at least one transmitter control signal which operates at said second remote station to embed said generated at least a portion of said instruction module into	Page 536 lines 4-6. Page 544 lines 26-27.	preprogrammed to receive programming transmitted via satellite by a particular European master network origination and control station and the specific national intermediate transmission station ...said European master network station embeds and transmits a SPAM message that is addressed to ITS, computers, 73, of intermediate stations that are national stations and that instructs said stations to embed and transmit their specific local intermediate sets.
an information transmission to be broadcast or cablecast, and	Page 544 lines 32-34.	...the normal location of its particular second television channel transmission....
transmit said information transmission to said third remote station in a broadcast or cablecast transmission; and	Page 545 line 29 to page 546 line 5.	At 4:29:50 PM, GMT, after an interval of time that is long enough for each local intermediate generation station to generate its specific program instruction set, said European master network station transmits a particular SPAM first- master-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are national stations. Receiving said message causes each national intermediate station to generate and embed in the normal location of its particular second television channel transmission a particular SPAM first-national-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are local stations.

transmitting said at least one instruct signal and	Page 536 lines 4-6. Page 541 lines 29-34.	*See above.* Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set.
said at least one transmitter control signal to said first remote station.	Page 545 line 29 to page 546 line 5.	At 4:29:50 PM, GMT, after an interval of time that is long enough for each local intermediate generation station to generate its specific program instruction set, said European master network station transmits a particular SPAM first- master-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are national stations. Receiving said message causes each national intermediate station to generate and embed in the normal location of its particular second television channel transmission a particular SPAM first-national-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are local stations.

11. Claim 13

The claim is directed to the method performed by the first remote (e.g., national transmitter) station of claim 12. The first remote station generates a computer program and transmits the computer program to a second (e.g., local) transmitter station in a signal that contains video. The computer program causes the second transmitter station to generate a second computer program. The computer program causes the second transmitter to generate a second computer program which is transmitted to and controls a subscriber station.

Claim 13 finds support at pages 533-556 of the specification.

Claim Language	Spec. Reference	Specification Language
A method of controlling a remote station,comprising the steps of:	Page 544 line 31 to page 545 line 5.	Receiving said message causes the computer, 73, of each national intermediate station to embed in the normal location of its particular second television channel transmission and to transmit a particular SPAM message that

		is addressed to ITS computers, 73, and that contains information segment information of its specific local level intermediate generation set. Receiving the specific SPAM message of its national intermediate station causes the computer, 73, of each local intermediate station...
	and page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
generating **at least a control portion of at least one control signal,**	Page 543 lines 20-25+.	In the mean time, executing their inputted information of said national level intermediate generation set causes the computers, 73, of said national intermediate stations each to **generate information of a specific local level intermediate generation set** ....
said at least one control signal effective to cause said remote station to (1) compute **a variable value** in response to said at least one control signal,	Page 545 lines 11-23.	Executing the information of its local level set causes the computer, 73, of each local intermediate station to access its specific LOCAL.TAX and LOCAL.EMP files and to **compute** formula-and-item -of-this-transmission information of specific local income and property tax formulas and local employment subsidy formulas....
(2) generate, based on said variable value, at least a control portion of **an instruction module** comprising executable code, said at least a control portion of said instruction module to be transferred to a memory at a subscriber station and executed upon command, and	Page 545 lines 7-8.	...to generate information of a **specific program instruction set** in the fashion that executing the intermediate generation set of Q caused different intermediate stations in example #10 to generate their specific program instruction sets of Q.1 or Q.2.
	Page 547 lines 19-26.	In the fashion of example #9, each local intermediate station detects the particular SPAM message of its recorder, 76, at its decoder, 77, and receiving its particular message causes each station to embed and transmit end of file signal information then a particular first SPAM message that is addressed to URS microcomputers, 205, and that contains complete information of its particular program instruction set.
	Page 548 lines 1-6.	Receiving the particular first SPAM message of its local intermediate station causes apparatus of the subscriber station of each farmer to execute the contained program instruction set of said message at the microcomputer, 205, of

		said station and to commence generating the specific combined medium output information of its subscriber station.
(3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission; and	Page 547 lines 22-26.	...causes each station to embed and transmit end of file signal information then a particular first SPAM message that is addressed to URS microcomputers, 205, and that contains complete information of its particular program instruction set.
transmitting said at least one control signal to said remote station in an information transmission which contains video.	Page 544 lines 31-35.	Receiving said message causes the computer, 73, of each national intermediate station to embed in the normal location of its particular second television channel transmission and to transmit a particular SPAM message that is addressed to ITS computers, 73,....

12. Claim 14

The claim is directed to the method performed by an originating transmitter (e.g., satellite) of claim 12. The satellite receives an information transmission to be broadcast or cablecast, a first computer program and a control signal. The first computer program and control signal cause a transmitter station (e.g., national transmitter) to generate a second computer program and transmit the second computer program to a remote station (e.g., local cable system). The second computer program causes the local cable system to generate a third computer program, which causes a subscriber station at the local cable system to computer information, store the information in a file, and transmit the first (e.g., for billing or customer servicing) upon command. The satellite transmits the information transmission, the first computer program and the control signal.

Claim 14 finds support at pages 533-556 of the specification.

Claim Language	Spec. Reference	Specification Language
A method of controlling a remote station based on a broadcast or	Page 541 lines 29-34.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of

cablecast transmission, comprising the steps of:		intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set.
	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
	Page 545 lines 23-28.	Automatically, each computer, 73, of a local intermediate station incorporates its computed information selectively into selected generally applicable information of said local level intermediate generation set, compiles information, and links information, thereby generating its specific program instruction set.
(1) receiving an information transmission to be broadcast or cablecast;	Page 536 lines 4-6.	... programming transmitted via satellite by a particular European master network origination and control station ....
(2) receiving at least one instruct signal which is effective to accomplish:	Page 541 lines 29-34.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set.
	Page 42 lines 8-11.	(Hereinafter, instances of computer program information that cause intermediate transmission station apparatus to generate program instruction set information and/or command information are called "intermediate generation sets.")
(a) effecting a transmitter station	Page 536 lines 4-6.	...preprogrammed to receive programming transmitted via satellite by a particular European master network origination and control station....
to generate at least a portion of at least one first control signal,	Page 534 lines 28-33.	Each nation has a national intermediate transmission station that is identical to the intermediate station of Fig. 6 except that it transmits output information of several individual television channels to receiver stations via a satellite in geosynchronous orbit over Europe rather than via a cable field distribution system.
said at least one first control signal effective	Page 543 lines 20-25+.	In the mean time, executing their inputted information of said national level

to cause said remote station to compute a variable value in response to said at least one first control signal,		intermediate generation set causes the computers, 73, of said national intermediate stations each to generate information of a specific local level intermediate generation set ....
generate, based on said variable value, at least a portion of an instruction module comprising executable code, said at least a portion of said instruction module to be transferred to a memory at said remote station and executed upon command, and	Page 545 lines 11-23.	Executing the information of its local level set causes the computer, 73, of each local intermediate station to access its specific LOCAL.TAX and LOCAL.EMP files and to compute formula-and-item -of-this-transmission information of specific local income and property tax formulas and local employment subsidy formulas....
	Page 545 lines 7-8.	...to generate information of a specific program instruction set in the fashion that executing the intermediate generation set of Q caused different intermediate stations in example #10 to generate their specific program instruction sets of Q.1 or Q.2.
	Page 544 line 31 to page 545 line 11.	Receiving said message causes the computer, 73, of each national intermediate station to embed in the normal location of its particular second television channel transmission and to transmit a particular SPAM message that is addressed to ITS computers, 73, and that contains information segment information of its specific local level intermediate generation set. Receiving the specific SPAM message of its national intermediate station causes the computer, 73, of each local intermediate station to execute the contained local level intermediate generation set of said message and to generate information of a specific program instruction set in the fashion that executing the intermediate generation set of Q caused different intermediate stations in example #10 to generate their specific program instruction sets of Q.1 or Q.2.
transmit said generated at least a portion of said instruction module in said broadcast or cablecast transmission; and	Page 547 lines 22-26.	...causes each station to embed and transmit end of file signal information then a particular first SPAM message that is addressed to URS microcomputers, 205, and that contains complete information of its particular program instruction set.
(b) effecting said remote station	Page 535 lines 18-22.	Each local government has a local intermediate transmission station that is identical to the intermediate station of Fig. 6

		and that transmits multiplexed output information of several separate television channels via a cable field distribution system.
to generate at least a portion of at least one second control signal,	Page 545 line 23-28.	Automatically, each computer, 73, of a local intermediate station incorporates its computed information selectively into selected generally applicable information of said local level intermediate generation set, compiles information, and links information, thereby generating its specific program instruction set.
said at least one second control signal effective to cause	Page 548 lines 1-6.	Receiving the particular first SPAM message of its local intermediate station causes apparatus of the subscriber station of each farmer to execute the contained program instruction set of said message at the microcomputer, 205, of said station and to commence generating the specific combined medium output information of its subscriber station.
a subscriber station at said remote station	Page 536 lines 3-10.	Each farmer's station ... is a subscriber station in the field distribution system of the local intermediate transmission station of the farmer's local government.
to compute a variable value in response to said at least one second control signal,	Page 549 line 33 to page 550 line 2.	... each farmer's microcomputer, 205, under control of the particular program instruction set generated and transmitted by its local intermediate station, computes its particular farmer's "optimal" crop planting plan by making reference to said farmer's specific data ...
	Page 555 lines 30-35.	Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated
generate at least a portion of a module based on said variable value,	Page 551 lines 11-14.	Automatically, under control of its received program instruction set, the microcomputer, 205, of its farmer's station records complete information of said farmer's crop planting plan at its A: disk in a file named PLANTING.DAT.
and transmit said module upon	Page 555 lines 21-29.	each farmer enters information at his local input, 225, that modifies the information of his

command;		file, "PLANTING.DAT," to suit his own wishes and inclinations then executes particular information of said TELEPHON.EXE module that causes the instructions of said module to cause his signal processor, 200, to transmit the information of his "PLANTING.DAT" file, via telephone network in the fashion of example #10, to a computer at a particular remote data collection station.
(3) receiving at least one transmitter control signal which operates at said transmitter station to communicate at least one of	Page 536 lines 4-6.	...preprogrammed to receive programming transmitted via satellite by a particular European master network origination and control station....
	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Page 539 line 34 to page 540 line 13.	At 3:59:55 PM, GMT, said European master network station transmits end of file signal information then invokes broadcast control of each national intermediate transmission station computer, 73, and each ultimate receiver station microcomputer, 205, that receives SPAM information of said master transmission. Automatically said European master network station commences controlling directly the computers, 73, of said national intermediate stations and the microcomputers, 205, of said ultimate receiver stations. And said master station causes each national intermediate station computer, 73, to embed in its particular second television channel transmission and to transmit end of file signal information then to invoke broadcast control of the computers, 73, of its specific local intermediate transmission stations.
(i) said at least one instruct signal and	Page 541 lines 29-34.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set.
(ii) said at least one	Page 544 lines 25-30.	...said European master network station

first control signal to a transmitter; and		embeds and transmits a SPAM message that is addressed to ITS, computers, 73, of intermediate stations that are national stations and that instructs said stations to embed and transmit their specific local intermediate sets.
(4) transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.	Page 536 lines 4-6. Page 541 lines 29-34. Page 539 line 34 to page 540 line 13.	*See above.* Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set. *See above.*

13. Conclusion

Applicants respectfully submit that the pending claims of the subject application particularly point out and claim the subject matter sufficiently for one of ordinary skill in the art to comprehend the bounds of the claimed invention. The test for definiteness of a claim is whether one skilled in the art would understand the bounds of the patent claim when read in light of the specification, and if the claims so read reasonably apprise those skilled in the art of the scope of the invention, no more is required. *Credle v. Bond*, 25 F.3d 1556, 30 USPQ2d 1911 (Fed. Cir. 1994). The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994). Applicants have amended the claims to enhance clarity and respectfully submit that all pending claims are fully enabled by the specification and distinctly indicate the metes and bounds of the claimed subject matter.

E. Support for Previous Amendment of "signal words" to "signal units"

During the interview of July 15th, 1999, the Examiners requested Applicants to demonstrate that no new matter was introduced into the specification in the amendment entered on October 21, 1998 which changed the following language in the specification on page 37 lines 22-25:

> "Controller, 39, 44, or 47, is preprogrammed to receive [units] words of signal information, to assemble said [units] words into signal [words] units that subscriber station apparatus can receive and process, and to transfer said [words] units to said apparatus."

Applicants submit that this amendment was merely made to correct a typographical mistake on their part. Additionally, specification support to verify the necessity of the amendment is found in the following language from page 14 lines 22-35.

> In all cases, signals may convey information in **discrete words**, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive **one complete instruction**.
>
> (The term "**signal unit** " hereinafter means one complete signal instruction or information message unit.... The term "**signal word**" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission....) *Emphasis added.*

From the above language, a "**signal unit**" is "one complete signal instruction or information message unit." *Words* of signal information are received and assembled into *signal units*, or completed instructions, for the subscriber station apparatus to receive, process and transfer. Thus, it should be clear from this passage that no new matter was introduced with the amendment and Applicants urge the PTO to maintain and/or enter the previous amendment as appropriate under 37 C.F.R. § 1.118 (a).

F. Prior art anticipation by Campbell et al., U.S. Pat. No. 4,536,791

The examiner of record indicates that all of Applicants claims are anticipated by Campbell et al. The following sections, categorized by each independent claim, will demonstrate how Campbell et al. fails to anticipate Applicants' claim language.

U.S. Patent No. 4,536,791 to Campbell et al. relates to addressable cable television control systems with a video formatted data transmission. Campbell et al. discloses an addressable cable television control system that transmits a television program and data signal transmission from a central station to a plurality of remote user stations. Campbell et al.'s data signals include both control and text signals in video line format that are inserted on the vertical interval of the television signals. An intelligent converter at each remote user location processes the data signals to enable controlled descrambling of the television transmission to the system on the basis of channel, tier of service, special event and program subject matter. The converter includes apparatus for interfacing with a two-way interactive data acquisition and control system.

Campbell et al. teaches a head end station that includes a central data system utilizing a control computer that gathers data from a wide variety of sources and formats the data for transmission on video frequency channels. The formatted data is then transmitted by communication link to a television program processor where it is incorporated into the vertical blanking intervals of video signals by a variety of television program sources. The head end unit then transmits the combined cable television and data signal to remote subscribers. Normally, the signals are then transmitted through a cable network to a plurality of subscribers. The signals are received by an addressable converter that determines whether to descramble the received television signal based on proper

subscriber, event and eligibility data stored at the receiver station, or to leave the signal in its scrambled format.

1. Applicants' claim 3

With respect to Applicants' claim 3, Campbell et al. fails to teach, *inter alia,*

passing said control signal to a computer and *causing said computer to compute a variable value in response to said control signal;*

generating, based on said computed variable value, *an instruction module* comprising *executable code,* said generated instruction module to be *transferred to a memory* at a second remote station and *executed upon command;* and

embedding said generated instruction module into an information transmission to be broadcast or cablecast.

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that Applicants' control signal is the request signal the converter 40 sends to the head end 11 to authorize reception of the channel in the pay-per-view example at column 17 lines 50-64. However, Campbell et al.'s request fails to cause a computer to compute a variable value in response to the control signal. Campbell et al. merely causes the head end 11 to insert control codes in the vertical blanking interval to allow the descrambler 116 to descramble the received signal. There is no teaching of the generation of an instruction module based on the computed variable value. Furthermore, there is no teaching as to the control codes of Campbell et al. comprising executable code able to be transferred to a memory device at a remote station and to be executed upon command. The control codes of Campbell et al. merely cause the descrambler 116 to be enabled. Thus, *ipso facto,* Campbell et al. cannot teach the embedding of a generated instruction module as claimed by Applicants into an information transmission.

Applicants respectfully submit that Campbell et al. does not anticipate claim 3 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claims be permitted to issue.

Claims 4-10 depend upon independent claim 3. As discussed *supra*, Campbell et al. fails to disclose every element of claim 3 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 4-10. Therefore, Applicants request that claims 4-10 be permitted to issue.

2. Applicants' claim 11

With respect to Applicants' claim 11, Campbell et al. fails to teach, *inter alia*,

transmission means for passing said control signal to said computation means, wherein said *computation means computes a variable value in response to said control signal* and *generates*, based on said computed variable value, ***at least a portion of an instruction module*** comprising *executable code*, said generated at least a portion of said instruction module to be *transferred to a memory* at a second remote station and *executed upon command*;

embedding means *for embedding said generated at least a portion of said instruction module* into an information transmission to be broadcast or cablecast; and

broadcast transmission means for transmitting said *information transmission to said second remote station* in a broadcast or cablecast transmission.

As best Applicants understand, the Examiner of record interprets Campbell et al.'s to suggest that Applicants' control signal is the request signal the converter 40 sends to the head end 11 to authorize reception of the channel in the pay-per-view example at column 17 lines 50-64, as mentioned above. However, Campbell et al.'s request fails teach computation means that computes

a variable value in response to said control signal and that generates, based on said computed variable value, at least a portion of **an instruction module** *comprising* executable code, said generated at least a portion of said instruction module to be transferred to a memory at a second remote station and executed upon command. Campbell et al. merely causes the head end 11 to insert control codes in the vertical blanking interval to allow the descrambler 116 to descramble the received signal. There is no teaching of the generation of an instruction module based on the computed variable value. Furthermore, there is no teaching as to the control codes of Campbell et al. comprising executable code able to be transferred to a memory device at a remote station and to be executed upon command. The control codes of Campbell et al. merely cause the descrambler 116 to be enabled. Thus, *ipso facto*, Campbell et al. cannot teach the embedding of a generated instruction module as claimed by Applicants into an information transmission.

Applicants respectfully submit that Campbell et al. does not anticipate claim 11 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

3. Applicants' claim 12

With respect to Applicants' claim 12, Campbell et al. fails to teach, *inter alia*,

receiving *at least one instruct signal* which is effective to cause a first remote station to *generate* at least *a portion of a control signal* which is *effective to cause a second remote station* to *compute a variable value* in response to said control signal and *generate*, based on said computed variable value, ***at least a portion of an instruction module*** comprising *executable code*, said generated at least a portion of

said instruction module *to be transferred to a memory* at a third remote station and *executed upon command;*

receiving at least one transmitter control signal which operates at said second remote station to *embed said generated at least a portion of said instruction module* into an information transmission to be broadcast or cablecast, *and transmit said information transmission to said third remote station* in a broadcast or cablecast transmission; and

transmitting said at least one instruct signal and said at least one transmitter control signal *to said first remote station.*

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that Applicants' control signal is the request signal the converter 40 sends to the head end 11 to authorize reception of the channel in the pay-per-view example at column 17 lines 50-64. However, Campbell et al.'s request fails to cause a computer to compute a variable value in response to the control signal. Campbell et al. merely causes the head end 11 to insert control codes in the vertical blanking interval to allow the descrambler 116 to descramble the received signal. There is no teaching of the generation of an instruction module based on the computed variable value. Furthermore, there is no teaching as to the control codes of Campbell et al. comprising executable code able to be transferred to a memory device at a remote station and to be executed upon command. The control codes of Campbell et al. merely cause the descrambler 116 to be enabled. Thus, *ipso facto,* Campbell et al. cannot teach the embedding of a generated instruction module as claimed by Applicants into an information transmission.

Likewise, Campbell et al. fails to teach a transmitter control signal that operates a remote station to embed and subsequently transmit the instruction module as defined by Applicants' claim language.

Applicants respectfully submit that Campbell et al. does not anticipate claim 12 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

4. Applicants' claim 13

With respect to Applicants' claim 13, Campbell et al. fails to teach, *inter alia,*

generating at least a control portion of *at least one control signal,* said at least one control signal effective *to cause said remote station* to (1) *compute a variable value in response to said at least one control signal,* (2) *generate,* based on said variable value, at least ***a control portion of an instruction module*** comprising *executable code,* said at least a control portion of said instruction module to be *transferred to a memory* at a subscriber station and *executed upon command,* and (3) transmit said at least said control portion of said generated instruction module in a broadcast or cablecast transmission; and

transmitting said at least one control signal *to said remote station in an information transmission which contains video.*

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that Applicants' control signal is the request signal the converter 40 sends to the head end 11 to authorize reception of the channel in the pay-per-view example at column 17 lines 50-64. However, Campbell et al.'s request fails to cause a computer to compute a variable value in response to the control signal. Campbell et al. merely causes the head end 11 to insert control codes in the vertical blanking interval to allow the descrambler 116 to descramble the received signal. There is no teaching of the generation of an instruction module based on the computed variable value. Furthermore, there is no teaching as to the control codes of Campbell et al. comprising executable code

able to be transferred to a memory device at a remote station and to be executed upon command. The control codes of Campbell et al. merely cause the descrambler 116 to be enabled. Thus, *ipso facto*, Campbell et al. cannot teach the embedding of a generated instruction module as claimed by Applicants into an information transmission.

Additionally, Applicants claim transmitting said at least one control signal to said remote station in an information transmission which contains video. Based on the Examiner's reasoning, the converter 40 request to the data control system at the head end 11 must be transmitted to the head end in an information transmission which contains video. There is no teaching or suggestion in Campbell et al. that the request to the head end from the addressable converter 40 contains video.

Applicants respectfully submit that Campbell et al. does not anticipate claim 13 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

5. Applicants' claim 14

With respect to Applicants' claim 14, Campbell et al. fails to teach, *inter alia*,

receiving at least one instruct signal which is effective to accomplish:

(a) *effecting a transmitter station to generate* at least a portion of at least one *first control signal*, said at least one first control signal *effective to cause said remote station to compute a variable value* in response to said at least one first control signal, *generate*, based on said variable value, ***at least a portion of an instruction module*** comprising *executable code*, said at least a portion of said instruction module *to be transferred to a memory* at said remote station and *executed upon command*, and transmit said generated at

least a portion of said instruction module in said broadcast or cablecast transmission; and

(b) effecting said remote station *to generate at least a portion of at least one second control signal*, said at least one second control signal effective *to cause a subscriber station* at said remote station *to compute a variable value in response to said at least one second control signal, generate* at *least a portion of a module based on said variable value*, and transmit said module upon command;

receiving *at least one transmitter control signal* which operates at said transmitter station *to communicate* at least one of (i) *said at least one instruct signal* and (ii) said *at least one first control signal* to *a transmitter*; and

transmitting said information transmission, said at least one instruct signal, and said at least one transmitter control signal to at least one of said transmitter station and said remote station.

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that Applicants' control signal is the request signal the converter 40 sends to the head end 11 to authorize reception of the channel in the pay-per-view example at column 17 lines 50-64. However, Campbell et al.'s request fails to cause a computer to compute a variable value in response to the control signal. Campbell et al. merely causes the head end 11 to insert control codes in the vertical blanking interval to allow the descrambler 116 to descramble the received signal. There is no teaching of the generation of an instruction module based on the computed variable value. Furthermore, there is no teaching as to the control codes of Campbell et al. comprising executable code able to be transferred to a memory device at a remote station and to be executed upon command. The control codes of Campbell et al. merely cause the descrambler 116 to be enabled. Thus, *ipso facto*, Campbell et al. cannot teach the

embedding of a generated instruction module as claimed by Applicants into an information transmission.

Additionally, Campbell et al. fails to teach or suggest the (b) limitation in claim 14 of effecting a remote station to generate...a second control signal...effective to cause a subscriber station to compute a variable value from which a module is generated on its basis.

Applicants respectfully submit that Campbell et al. does not anticipate claim 14 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Applicants further respectfully submit that claims 3-14 in the present application should be permitted to issue because these methods are not disclosed, taught, suggested, or implied by the applied prior art. For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Foundation v. Genetech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001, 18 USPQ2d 1896 (Fed. Cir. 1991). Absence from a cited reference of any element of a claim negates anticipation of that claim by the reference. *Kloster Speedsteel AB v Crucible, Inc.*, 230 USPQ 81 (Fed. Cir. 1986), *on rehearing*, 231 USPQ 160 (Fed. Cir. 1986).

III. CONCLUSION

In accordance with the foregoing it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Thus, there being no further outstanding objections or rejections, the application is submitted as being in a condition for issuance, which action is earnestly solicited.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Respectfully submitted,

Date: October 4, 1999
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	
John C. Harvey and James W. Cuddihy	Examiner: SAINT-SURIN, J.
Serial No. 08/488,438	Group Art Unit: 2742
Filed: June 7, 1995	Atty. Docket. 05634.0235
For: SIGNAL PROCESSING APPARATUS AND METHODS	

BOX: ISSUE FEE - AMENDMENT

Assistant Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

I. REQUEST TO CONSIDER AMENDMENT AFTER NOTICE OF ALLOWANCE AND AFTER PAYMENT OF ISSUE FEE UNDER 37 C.F.R. § 1.312(A)

This amendment after the notice of allowance and payment of the issue fee is submitted in response to the interviews on June 16th, July 1st and 15th, 1999 and per request of the Examiners of the PTO. Applicants respectfully request that the following amendment be considered into the above-captioned application and the claims be permitted to issue.

II. REMARKS

A. Response to Obvious-Type Double Patenting Allegation over Claims 9 & 12 of U.S. Pat. No. 5,109,414

1. PTO Assertions in the Interview of July 15th, 1999.

PTO generally asserts that claims 9 and 12 of U.S. Pat. No. 5,109,414 (hereafter, "the '414 patent") are patentably distinct from the invention defined by Applicants' independent claims, i.e., 3 & 4 under the judicially created doctrine of obvious-type double patenting.

Additionally, the Examiner of record stated that:

1. the use of the entire patent '414 disclosure is applicable to determine the scope of the patented claims applied to the instant application's claims;

2. a combination of the claims in the '414 patent may used as basis for a double patenting rejection of the claims in the instant; and

3. the "comprising" language in the instant application's claims renders the claims obvious in light of the patent '414 claims.

2. Standard of Review for Obvious-Type Double Patenting Rejection

Under the doctrine of double patenting, the PTO must determine whether the invention defined by the application claims would have been obvious over the subject matter defined by the claims of the '414 patent, in light of the prior art. *In re Longi*, 225 USPQ 645, 648 (Fed. Cir. 1985).

An obvious-type double patenting rejection is analogous to the nonobviousness requirement of 35 U.S.C. 103 except that the patent principally underlying the double patenting rejection is not considered prior art. *In re*

Braithwaite, 379 F.2d 594, 154 USPQ 29 (CCPA 1967). Therefore, any analysis employed in an obvious-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985). M.P.E.P. § 804 (II) B (1).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) that establish a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis. These factual inquiries are summarized as follows:

(A) Determine the scope and content of the patent claim and the prior art relative to the claim in the application at issue;

(B) Determine the differences between the scope and content of the patent claim and the prior art as determined in (A) and the claim in the application at issue;

(C) Determine the level of ordinary skill in the pertinent art; and

(D) Evaluate any objective indicia of nonobviousness. *M.P.E.P. § 804 (II) B (1).*

Given these standards for determination, Applicants fail to understand why the Examiner concluded that the term "comprising" in the application claim language could be used as basis for an obvious-type double patenting rejection over the subject matter defined by claims of the '414 patent. This conclusion failed to take into account any of the above factual inquiries in determining obvious-type double patenting.

3. Scope of Availability of the Patent Specification in Determining Obvious-Type Double Patenting

When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent, ***the disclosure of the patent may not be used as prior art.*** However, this does not mean that the Examiner is precluded from the use of the patent disclosure.

There are two specific instances in which the specification can be used to determine the scope of the claim. (1.) In determining the meaning of a word in a claim, the specification may be examined. However, the words in a claim are generally not limited in their meaning by what is shown in the disclosure. (2.) In such instances where the disclosure will serve as a dictionary for the terms appearing in the patent, the disclosure may be used in interpreting the scope of the claim. *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970).

The disclosure of the patent is only an aid in determining the scope of the claim. Proper examination in the instant application must first determine what portion of the '414 patent disclosure supports the invention of claims 9 & 12, since only these portions may be considered in interpreting the scope of the claim. Once the scope of the claim is determined, then one must ask whether the pending claim would have been an obvious variation over the patented claim in view of the prior art, not the patented claim in view of the patent specification.

Examiner's assertion that the *entire* patent disclosure is applicable to determine obviousness as applied to the instant application's claims is unfounded and unlawful. The use of broad assertions in the patent specification which do not support the patent claims at issue to determine obvious-type double patenting constitutes using the patent as prior art, which it is not. *In re Vogel, supra.*

Additionally, there is no legal authority to combine patented claims in a single application to determine obvious-type double patenting. As stated above, the specification may be used to solely determine the scope of the claims, not motivation for obvious-type double patenting rejections. Each of Applicants' patented claims represent single inventions supported by at least one embodiment in the specification of the patent. Applicants' own patented inventions cannot be used against him as prior art in determining obvious-type double patenting since the patent disclosure may not be used as prior art. *In re Boylan*, 55 CCPA 1041, 392 F.2d 1017, 157 USPQ 370 (1968), *supra; In re Aldrich*, 55 CCPA 1431, 398 F.2d 855, 158 USPQ 311 (1968).

4. Applicants' Analysis as to Why Obvious-Type Double Patenting Rejection is Not Proper in the Instant Case

a. Specification Support for Claims 9 & 12 of U.S. Pat. No. 5,109,414.

Since M.P.E.P. § 804 II (B) 1 states that one must first determine how much of the patent disclosure pertains to the invention claimed in the patent because only [t]his portion of the specification supports the patent claims and may be considered, Applicants provide specification support for claims 9 and 12 of the '414 patent below to offer support in determining an exemplary portion of the patent disclosure pertaining to the invention claimed in the patent.

Claim 9 of the '414 patent is generally directed to a multichannel television distribution system in which a receiver/distributor means receives television programming from a plurality of program sources and directs the programming to a matrix switch means and a control signal detector means. There is a matrix switch means for receiving the programming from the receiver/distribution means and for directing selected portions of the received

programming to a recording device operatively connected to a multichannel television distribution means. A control signal detector means detects control signals respecting the programming and transfers the control signals to a storage/transfer means. The control signal detector means is configured to detect the control signals in a predetermined frequency range or at predetermined locations within the programming. A storage/transfer means receives and stores the control signals and transfers at least a portion of the control signals for further processing. A processor means controls the directing functions of the matrix switch means and the transfer functions of the storage/transfer means in response to the control signals or on local command.

Claim 9 of U.S. Pat. No. 5,109,414	Specification Support
9. In a multichannel television distribution system,	Refer to Figs. 3A-C, as described from column 10 line 24 to column 12 line 67.
a receiver/distributor means for receiving television programmingfrom a plurality of program sources and directing said programming to	Distribution amplifiers 63-70.
a matrix switch means and	Matrix switch 75.
a control signal detector means,	Signal processor 71.
a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device	*See* column 11 line 44 to column 12 line 12. Video recorder and players 76 & 78.
operatively connected to a multichannel television distribution means,	Cable field distribution system 93.
a control signal detector means for detecting	Signal processor 71.
control signals respecting said programming and transferring said control signals	Column 11 lines 3-11.
to a storage/transfer means,	Cable program and controller 73.
said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said	*See* column 11 lines 3-11.

programming,	
a **storage/transfer means** for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	Cable program and controller 73. *See* column 11 lines 3-11.
a **processor means** for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	Cable program and controller 73. *See* column 11 line 44 to column 12 line 12.

Claim 12 of the '414 patent is generally directed to a multichannel television distribution system in which a receiver/distribution means receives television programming from a plurality of program sources and outputs the programming to a matrix switch means and a control signal detector and processor means. A matrix switch means receives the programming from the plurality of receiver/distribution means and outputs selected portions of the received programming to a multichannel television distribution means. A control signal detector and processor means detects the control signal respecting the programming and transfers the control signals to a storage/transfer means. The control signal detector and processor means is configured to detect the control signals in specified frequency ranges or at specified locations within the programming. The control signal detector and processor means controls the particular ranges and locations wherein the control signals are directed. A storage/transfer means receives and stores the control signals and transfers at least a portion of the control signals for further processing. A processor means controls the output functions of the matrix switch means and the transfer functions of the storage/transfer means in response to the control signals or on local command.

Claim 12 of U.S. Pat. No. 5,109,414	Specification Support
12. In a multichannel television distribution system,	Refer to Figs. 3A-C, as described from column 10 line 24 to column 12 line 67.

a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and outputting said programming to a matrix switch means and a control signal detector and processor means,	Distribution amplifiers 63-70. Matrix switch 75. Signal processor 71.
a matrix switch means for receiving said programming from said plurality of receiver/distribution means and for outputting selected portions of said received programming to a multichannel television distribution means,	Matrix switch 75. Distribution amplifiers 63-70. Cable field distribution system 93.
a control signal detector and processor means for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	Signal processor 71. *See* column 11 lines 3-11.
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	Cable program and controller 73. *See* column 11 lines 3-11.
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	Cable program and controller 73. *See* column 11 line 44 to column 12 line 12.

b. Analysis of Claim 3 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 3
9. In a multichannel television distribution system,	A method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of

	intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, said method comprising the steps of:
a receiver/distributor means for receiving television programmingfrom a plurality of program sources and directing said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,	transmitting from said at least one origination station said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	transmitting said at least one signal for comparison from said at least one origination station;
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	said plurality of intermediate transmission stations receiving said at least one unit of programming, detecting said plurality of retransmission control signals and receiving said at least one signal for comparison, each said plurality of intermediate transmission stations passing said retransmission control signals and said at least one signal for comparison to said automatic control unit, each said plurality of intermediate transmission stations storing said at least one unit of programming based on comparisons performed by said automatic control unit in accordance with said plurality of retransmission control signals and retransmitting said at least one unit of programming in accordance with said plurality of retransmission control signals; and
a processor means for controlling the directing functions of said matrix switch means and the transfer functions of said storage/transfer	said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different

means in response to said control signals or on local command.	times in accordance with said programmed automatic control unit.

(2) Patentable Distinctions of Claim 3 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 3 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, said method comprising the steps of:

transmitting from said at least one origination station said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;

transmitting said at least one signal for comparison from said at least one origination station;

said plurality of intermediate transmission stations receiving said at least one unit of programming, detecting said plurality of retransmission control signals and receiving said at least one signal for comparison, each said plurality of intermediate transmission stations passing said retransmission control signals and said at least one signal for comparison to said automatic control unit, each

said plurality of intermediate transmission stations storing said at least one unit of programming based on comparisons performed by said automatic control unit in accordance with said plurality of retransmission control signals and retransmitting said at least one unit of programming in accordance with said plurality of retransmission control signals; and

said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 3 of the present application claims a method of communicating at least one unit of programming in a communications network. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 3 an obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 9/12 performs, *inter alia*, transmitting from said at least one origination station said at least one unit of programming....; said plurality of intermediate transmission stations receiving said at least one unit of programming....; and said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit, as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 3 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

c. Analysis of Claim 4 with Claim 9 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 9 of U.S. Pat. No. 5,109,414	Claim 4
9. In a multichannel television distribution system,	A method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said at least one selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, comprising the steps of:
a receiver/distributor means for receiving television programmingfrom a plurality of program sources and directing said programming to a matrix switch means and a control signal detector means, a matrix switch means for receiving said programming from said receiver/distribution means and for directing selected portions of said received programming to a recording device operatively connected to a multichannel television distribution means,	(1) receiving said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;
a control signal detector means for detecting control signals respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector means being configured to detect said control signals in a predetermined frequency range or at predetermined locations within said programming,	(2) receiving a control signal which operates at said plurality of intermediate transmitter stations to communicate said at least one unit of programming to said transmitter; and
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	(3) transmitting said at least one unit of programming, wherein said at least one unit of programming is effective to cause said plurality of intermediate transmission stations to retransmit said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.
a processor means for controlling the directing	

functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or on local command.	

(2) Patentable Distinctions of Claim 4 over Claim 9 of U.S. Pat. No. 5,109,414.

Claim 4 of the present application has as patentable distinctions over the disclosure of claim 9 of the '414 patent:

a method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said at least one selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, comprising the steps of:

receiving said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;

receiving a control signal which operates at said plurality of intermediate transmitter stations to communicate said at least one unit of programming to said transmitter; and

transmitting said at least one unit of programming, wherein said at least one unit of programming is effective to cause said plurality of intermediate transmission stations to retransmit said at least one unit of programming

independently and at different times in accordance with said programmed automatic control unit.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 4 of the present application claims a method of communicating at least one unit of programming in a communications network. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 4 an obvious variation over the invention defined by claim 9 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 9 performs, *inter alia*, receiving said at least one unit of programming.... including a plurality of retransmission control signals; receiving a control signal ...to communicate said at least one unit of programming ...; and transmitting said at least one unit of programming,...as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 4 of the present application is not obvious over the invention defined by claim 9 of the '414 patent in light of the prior art.

d. Analysis of Claim 3 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 3
12. In a multichannel television distribution system,	A method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective

	transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, said method comprising the steps of:
a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and outputting said programming to a matrix switch means and a control signal detector and processor means,	transmitting from said at least one origination station said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;
a matrix switch means for receiving said programming from said plurality of receiver/distribution means and for outputting selected portions of said received programming to a multichannel television distribution means,	transmitting said at least one signal for comparison from said at least one origination station;
a control signal detector and processor means for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	said plurality of intermediate transmission stations receiving said at least one unit of programming, detecting said plurality of retransmission control signals and receiving said at least one signal for comparison, each said plurality of intermediate transmission stations passing said retransmission control signals and said at least one signal for comparison to said automatic control unit, each said plurality of intermediate transmission stations storing said at least one unit of programming based on comparisons performed by said automatic control unit in accordance with said plurality of retransmission control signals and retransmitting said at least one unit of programming in accordance with said plurality of retransmission control signals; and
a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer	

means in response to said control signals or local command.	

(2) Patentable Distinctions of Claim 3 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 3 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, said method comprising the steps of:

transmitting from said at least one origination station said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;

transmitting said at least one signal for comparison from said at least one origination station;

said plurality of intermediate transmission stations receiving said at least one unit of programming, detecting said plurality of retransmission control signals and receiving said at least one signal for comparison, each said plurality of intermediate transmission stations passing said retransmission control signals and said at least one signal for comparison to said automatic control unit, each

said plurality of intermediate transmission stations storing said at least one unit of programming based on comparisons performed by said automatic control unit in accordance with said plurality of retransmission control signals and retransmitting said at least one unit of programming in accordance with said plurality of retransmission control signals; and

said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 3 of the present application claims a method of communicating at least one unit of programming in a communications network. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 3 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 12 performs, *inter alia*, transmitting from said at least one origination station said at least one unit of programming....; said plurality of intermediate transmission stations receiving said at least one unit of programming....; and said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit, as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 3 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

e. Analysis of Claim 4 with Claim 12 of U.S. Pat. No. 5,109,414.

(1) Claim Comparison Chart

Claim 12 of U.S. Pat. No. 5,109,414	Claim 4
12. In a multichannel television distribution system,	A method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said at least one selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, comprising the steps of:
a plurality of receiver/distribution means for receiving television programming from a plurality of program sources and outputting said programming to a matrix switch means and a control signal detector and processor means,	(1) receiving said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;
a matrix switch means for receiving said programming from said plurality of receiver/distribution means and for outputting selected portions of said received programming to a multichannel television distribution means,	(2) receiving a control signal which operates at said plurality of intermediate transmitter stations to communicate said at least one unit of programming to said transmitter; and
a control signal detector and processor means for detecting control signal respecting said programming and transferring said control signals to a storage/transfer means, said control signal detector and processor means being configured to detect said control signals in specified frequency ranges or at specified locations within said programming, said control signal detector and processor means controlling the particular ranges and locations wherein said control signals are detected,	(3) transmitting said at least one unit of programming, wherein said at least one unit of programming is effective to cause said plurality of intermediate transmission stations to retransmit said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.

a storage/transfer means for receiving and storing said control signals and for transferring at least a portion of said control signals for further processing, and	
a processor means for controlling the output functions of said matrix switch means and the transfer functions of said storage/transfer means in response to said control signals or local command.	

(2) Patentable Distinctions of Claim 4 over Claim 12 of U.S. Pat. No. 5,109,414.

Claim 4 of the present application has as patentable distinctions over the disclosure of claim 12 of the '414 patent:

a method of communicating at least one unit of programming in a communications network, said communications network including at least one origination station and a plurality of intermediate transmission stations, each said plurality of intermediate transmission stations having a receiver, at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter, an automatic control unit operatively connected to said at least one selective transmission device, a detector operatively connected to said automatic control unit for detecting at least one signal, and said automatic control unit being programmed to perform in a station specific fashion, comprising the steps of:

receiving said at least one unit of programming, said at least one unit of programming including a plurality of retransmission control signals;

receiving a control signal which operates at said plurality of intermediate transmitter stations to communicate said at least one unit of programming to said transmitter; and

transmitting said at least one unit of programming, wherein said at least one unit of programming is effective to cause said plurality of intermediate transmission stations to retransmit said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.

(3) Reasons Patentable Distinctions would not be Obvious to One Having Ordinary Skill in the Art at the Time of the Invention.

Claim 4 of the present application claims a method of communicating at least one unit of programming in a communications network. There is no teaching in the prior art nor any knowledge one of ordinary skill in the art at the time of the invention would have possessed that would render claim 4 an obvious variation over the invention defined by claim 12 of the '414 patent. There is simply no suggestion that the multichannel television distribution system as disclosed in claim 12 performs, *inter alia*, receiving said at least one unit of programming.... including a plurality of retransmission control signals; receiving a control signal ...to communicate said at least one unit of programming ...; and transmitting said at least one unit of programming,...as the instant claim specifies. For this reason, *inter alia*, given the patentable distinctions as outlined above, claim 4 of the present application is not obvious over the invention defined by claim 12 of the '414 patent in light of the prior art.

B. General Overview and Summary of Applicants' 1987 Disclosure

While the Examiners suggest that Applicants' 1987 disclosure may appear to contain a series of isolated examples, Applicants maintain that their examples are carefully tied together. An essential feature of Applicants' disclosure in the

specification is that they explain their invention and the various embodiments thereof and their interrelationship. The following description provides the complete context of the disclosure, illuminating important timing and error correction considerations and explaining the interrelationship of Applicants' full system.

One clear series of teachings is focused around the "Wall Street Week" combined image of Fig. 1C. A first part of this image is received in a television signal. Fig. 1B shows this first part. A second part, Fig. 1A, is generated at the viewer station by processing data, which exists at the viewer station, in response to control instructions which are detected in the television signal. In a section entitled "One Combined Medium" (pages 19-28) at the beginning of the Description of the Preferred Embodiments, a sequence of events associated with the display of Fig. 1C is disclosed. A first series of instructions invoke broadcast control (defined at page 23 lines 24-26), which includes clearing video RAM. A second series of instructions construct the Fig. 1A image at video RAM. The Fig. 1B image is received in the "Wall Street Week" program, and is explained by the program host as showing the performance of the Dow Industrials. When the host says, "And here is what your portfolio did," an instruction in the television signal executes "GRAPHICS ON" which combines the Figs. 1A and 1B images and displays Fig. 1C. After an interval of time during which corresponding personalized programming is displayed simultaneously to every properly equipped member of the "Wall Street Week" audience, an instruction executes "GRAPHICS OFF" and causes Fig. 1A no longer to be displayed. The disclosure defines "combining synch command" at page 26 lines 20-24, and explains that instructions that construct the Fig. 1A, execute "GRAPHICS ON", and execute "GRAPHICS OFF" each comprise a combining synch command. Subsequently,

these are referred to throughout the disclosure as the **"first", "second", and "third combining synch commands of the 'Wall Street Week' example".**

After providing a detailed disclosure of apparatus of the invention (called "SPAM" apparatus) and of the composition of messages and message streams, four examples, between pages 108 and 248, disclose alternate ways of processing the first, second, and third combining synch commands of the 'Wall Street Week' example. These examples reference Fig. 3. Example #1 describes transferring the messages to an addressed controller and causing the controller to respond. Examples #2 and #4 disclose alternate decryption techniques whereby portions of the message stream containing the three combining synch commands are selectively decrypted. Examples #3 and #4, which reference Fig. 3A as the controller of decoders 203 and 205C, disclose the collection of metering data (e.g., for billing purposes) and monitoring data (e.g., for TV viewership ratings) based on content of the first two combining synch commands. Each example discloses control of a sequence of events, and describes carefully how its sequence occurs within the broader context of "One Combined Medium" at pages 19-28. Specifically each of examples #1, #2, #3, and #4 elaborates on the portion of "One Combined Medium" from page 24 line 1 to page 27 line 7. In these four examples, each later example builds upon concepts disclosed and definitions provided in the earlier examples.

Example #5 (pages 248-271) focuses on functions performed by Signal Processor 200 in Fig. 3 *concurrently with* the sequence of events described in "One Combined Medium" *and at apparatus which perform* the metering and monitoring of examples #3 and #4. The first combining synch command of the "Wall Street Week" example is also processed in example #5. Example #5 introduces concepts that are subsequently used (e.g., in example #7) to teach automatic selection of programming, including the "Wall Street Week" program itself. At pages 271-

278, the disclosure explains how the metering and monitoring, in particular of the first combining synch command of the "Wall Street Week" example, causes the content of recorder 16 to exceed a predetermined level which causes the Signal Processor to telephone a remote data collection station and dump the content of recorder 16 to the remote station.

Example #7, which occurs at pages 288-312 and 427-447 and incorporates concepts of example #6, teaches selection of the "Wall Street Week" program itself, interconnection of subscriber station apparatus to provide station specific processing *alternatives* based on pre-stored instructions, and decryption of the "Wall Street Week" program transmission. The disclosure teaches (e.g., page 311 lines 10-16) how this causes the station (now of Fig. 4 or Fig. 7 which are subscriber stations of the intermediate transmission station of Fig. 6) to perform the functions "One Combined Medium" and examples #1-#4.

The disclosure also cites (pages 322-333) and sites the "Wall Street Week" monitoring and metering functions within the extended Fig. 5 monitoring disclosed at pages 312-314.

In "Controlling Computer-Based Combined Media Operations" (pages 447-457), the disclosure teaches how the "Wall Street Week" subscriber portfolio contents and stock price data come to be up-to-date when the program begins, teaches that the Fig. 1C combining is the first of a series of overlays, teaches error detection techniques to prevent the display of incorrect or incomplete overlays, and teaches error correction techniques to enable slow viewer station computers that fall behind to catch up.

A second clear series of teachings is focused around a television spot commercial called **program unit Q.**

Within the disclosure of automated intermediate transmission station functionality that begins at page 324, program unit Q is introduced at page 331

lines 21-22 in a passage that teaches organizing units of prerecorded programming to play according to schedule.

Example #8 (pages 340-354) discloses that program unit Q is a television spot commercial and teaches how it is transmitted with other spot commercials from a satellite up-link to automated cable TV head-ends which are caused automatically to select, store, and retransmit the spot commercials at different times and on different channels.

Example #9 (pages 354-374) discloses that program unit Q is a combined medium television spot commercial and teaches how one of the automated head-ends of example #8 creates and transmits according to a schedule a time specific and transmitter specific control signal with data that applies to specials and discounts in a local supermarket at the scheduled time of transmission. The relationship of examples #8 and #9 is discussed at page 355 lines 15-32.

Example #10 (pages 374-390) teaches how the automated head-end (as one of a plurality of such head-ends each) creates the time specific and transmitter specific control signal with data and inserts the control signal into a network broadcast of combined medium program unit Q.

The subscriber station functionalities associated with both examples #9 and #10 (see page 469 line 1) are taught at pages 469-516. Each of a plurality of viewer stations creates receiver specific output in response to the control signal(s) as well as selecting viewer specific output from among the transmitted transmitter specific data. Each outputs its output in a series of time intervals of specific relevance. The relationship of pages 469-514 to pages 324-390 is explicit and unmistakable in that every disclosure (e.g., 354-374, 374-390, and 469-516) teaches a sequence of more than thirteen messages with matching names. These include, for example, the **"transmit-and-execute-program-instruction-set message"** (page 371 lines 9-10, page 385 lines 7-8, and page 484 lines 1-2) and

"**program-instruction-set message**" (page 371 lines 17-19, page 385 lines 14-16, and 484 line 5). Furthermore, corresponding named ones of these messages are disclosed in each respective passage (e.g., 354-374, 374-390, and 469-516) to have functionally identical content and to cause identical functioning at the subscriber stations. The passage at page 514 lines 8-30 states this.

Having disclosed all the individual elements and procedures of their system, Applicants finish their disclosure by describing a cycle in "Summary Example #11". The cycle involves controlling the disclosed system on a large scale to interconnect and distribute information to users, create control signals, create output in response to the control signals, display and explain the information and output, and receive and process feedback in order to repeat the cycle. Important disclosed functions such as preprogramming operating system instructions (page 537), creation of control signals (pages 541-547), creation of output for display (e.g., pages 548-551), display of the output (e.g., middle of page 552 to top of page 554), reception of feedback (pages 555-556), and distribution of new information based on the feedback (page 556) are cited in specific sequence and make clear reference to the pertinent portions of the specification that disclose these important functions.

C. Specification Support of the Claims

1. Claim 3

In example #8 of the 1987 patent specification, satellite uplink transmits a series of 26 television spot commercials via satellite to several cable system head ends. Each spot commercial is transmitted with embedded signals (e.g., identifiers) which enable each cable head end to retransmit its own scheduled commercials. The uplink transmits a schedule to each head end that contains at least one comparison signal (e.g., an identifier) that identifies at least one spot commercial

scheduled to be retransmitted. Each cable head end contains a selective transmission device (e.g., a tunable receiver or storage device) that is controlled by a computer. Each cable head end receives and inputs to its computer the retransmission control signals and its schedule. By comparing the retransmission control signals to its schedule, each cable head end selects and retransmits its own scheduled spot commercials, with the cable head ends operating independently and retransmitting at least one commercial at different times.

Claim 3 finds support in the specification at pages 324-354 and especially at pages 340-354.

Claim Language	Spec. Reference	Specification Language
A method of communicating at least one unit of programming	Page 340 lines 12-23 and	AUTOMATING INTERMEDIATE TRANSMISSION STATIONS ... EXAMPLE #8 Using the capacity described above for identifying, selecting, and recording received programming; for organizing recorded programming to play according to schedule; for playing selected organized programming on schedule; ... a remote distribution station can transmit to a plurality of intermediate transmission stations programming that is scheduled for delayed transmission, cause each station of said plurality automatically to select and retransmit programming according to its own specific schedule, ...
	page 340 line 33 through page 341 lines 4;	Said programming might be, for example, so-called "television spot commercials." Providing means where by one station can transmit programming to a plurality of intermediate transmission stations and cause each intermediate station to transmit its own specific selected units of said programming according to its own specific schedule
	page 344 lines 23-30;	At 4 A.M. eastern standard time, on January 28, 1988 said remote distribution station commences transmitting programming by satellite up-link means, well known in the art. Said programming consists of a sequence of the program units of 26 spot

		commercials, each of thirty seconds duration. In succession, said station transmits units A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z.
in a communications network,	for example, page 342 line 26 through page 343 line 4;	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network.
said communications network including at least one origination station and	page 340 lines 28-34;	One such remote distribution station might be, for example, a so-called "satellite uplink" that transmits programming, in a fashion well known in the art, to a plurality of receiver stations via a satellite transponder (said intermediate transmission stations being among said receiver stations). Said programming might be, for example, so-called "television spot commercials."
a plurality of intermediate transmission stations,	page 340 lines 18-20 and	a remote distribution station can transmit to a plurality of intermediate transmission stations
each said plurality of intermediate transmission stations	Page 341 lines 11-18.	...and cause each intermediate station to transmit its own specific selected units of said programming according to its own specific schedule....
	page 341 lines 26-29,	Among said intermediate stations are cable system head ends located in California and Florida, broadcast stations located in Texas and Washington, D.C., and the station of Fig. 6 which is, for example, in Vermont.
having a receiver,	for example, TV receiver 53 in figure	

	6A, and,page 343 lines 21-32;	...instructions at each computer, 73, cause the computers, 73, at said intermediate transmission stations each, in a predetermined fashion, to commence preparing its particular station to receive and record information of the transmission of transponder 23 of the Galaxy 1 satellite. Automatically, at the station of Fig. 6, the computer, 73, instructs a selected earth station, 50, to move its antenna so as to receive transmissions from a satellite at the celestial coordinates of the Galaxy 1 satellite and instructs amplifier, 51, and receiver, 53, to amplify and tune as required to receive the transmission of the frequency of the transponder 23 of said satellite.
at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter,	for example, video recorder and player 76 in figure 6A, page 347 lines 14-30,	Each computer, 73, of said intermediate stations is preprogrammed to account for and keep track of the quantity of time available for additional recording on the individual tapes loaded on the recorders (eg., 76 and 78) of its station, ...
an automatic control unit operatively connected to said selective transmission device,	for example, cable program controller and computer 73 in figure 6A, page 326 lines 19-20, page 341 lines 30-34;	Cable program controller and computer, 73, is the central automatic control unit for the transmission station. At each intermediate transmission station is a computer, 73, that is preprogrammed to receive, process, and record, in a predetermined fashion, program schedule information that is transmitted from said remote distribution station.
a detector operatively connected to said automatic control unit for detecting at least one signal,	for example, in signal processor 71 in figure 6A, page 341 line 34 through page 342 line 2 with	And the signal processor system, 71, and the computer, 73, of each station are preprogrammed to process particular SPAM

		message instructions are transmitted from said remote distribution station.
	page 39 lines 1-11;	Fig. 2D shows one embodiment of a signal processing system. Said system contains signal processor, 26, and external decoders, 27, 28, and 29. Each said external decoder may be a TV signal decoder (Fig. 2A) or a radio signal decoder (Fig. 2B) or an other signal decoder (Fig. 2C) depending on the nature of the selected frequency inputted. As Fig. 2D shows, each decoder, 27, 28, and 29, receives one selected frequency and has capacity for transferring detected, corrected, converted, and possibly modified signals to signal processor, 26, at buffer/comparator, 8, and also to other station apparatus.
and said automatic control unit being programmed to perform in a station specific fashion, said method comprising the steps of:	Page 341 lines 30-34,	At each intermediate transmission station is a computer, 73, that is preprogrammed to receive, process, and record, in a predetermined fashion, program schedule information that is transmitted from said remote distribution station.
	and page 343 lines 5-7.	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently.
transmitting from said at least one origination station said at least one unit of programming,	Page 340 line 33 through page 341 line 4,	Said programming might be, for example, so-called "television spot commercials." Providing means where by one station can transmit programming to a plurality of intermediate transmission stations and cause each intermediate station to transmit its own specific selected units of said programming according to its own specific schedule ...
	page 344 lines 23-30;	At 4 A.M. eastern standard time, on January 28, 1988 said remote distribution station commences transmitting programming by satellite up-link means, well known in the art. Said programming consists of a sequence of the program units of 26 spot commercials, each of thirty seconds duration. In succession, said station transmits units A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z.
said at least one unit of programming including a plurality of retransmission control signals;	page 344 lines 30-32 and,	Embedded in each of said program units are SPAM messages containing appropriate "program unit identification code" information and distance information.

	for example, page 330 line 5 through page 331 line 16.	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, and capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. **Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends** (or to any other selected point). To position the start point (or another selected point) of a given program unit at the play heads of a given recorder, 76, computer, 73, instructs switch, 75, to configure its switches so as to transfer the transmission input from said recorder, 76, to no output. Then by instructing recorder, 76, to play and decoder, 77, to detect SPAM information in a particular location or locations, computer, 73, causes decoder, 77, to detect and transfer to computer, 73, said program unit and distance information. Receiving said information causes computer, 73, to cause recorder, 76, to stop playing; to analyze said distance information in a predetermined fashion; and to compute the precise time required to rewind to reach the start of the program unit or to move fast forward to reach the end. Then automatically, computer, 73, causes said recorder, 76, first, to start rewinding or moving fast forward then to stop after the precise time elapses. (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded and need not repeat continuously--one embedded signal word is sufficient for this method to work. But a method wherein only one instance of distance information is embedded in any given program unit of programming has the disadvantage of causing too much apparatus at too many stations to spend too much time searching for said instance. In the preferred embodiment,

		distance information is embedded in the relevant normal transmission location of its programming and occurs periodically throughout a program unit with increasing frequency as the closeness of the start or end of the programming approaches and with one instance, in television programming, occurring on the first and fourth frames and the last two frames of the programming.)
transmitting said at least one signal for comparison from said at least one origination station;	Page 342 lines 10-11 with page 328 lines 8-13.	Said remote station inputs schedule information to each computer, 73. By comparing selected ... with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming ....
said plurality of intermediate transmission stations receiving said at least one unit of programming,	Page 346 line 34 through page 347 line 5 and page 349 line 35 through page 350 line 7;	Subsequently, receiving the select-Q-message (#8) causes said computer, 73, to determine that the "program unit identification code" information of unit Q matches preprogrammed schedule information which causes said computer, 73, to cause recorder, 76, to commence recording, thereby causing said recorder, 76, to record the programming of program unit Q which follows said select-Q-message (#8). Receiving said select-J-message (#8), the select-L-message (#8), and the select-Q-message (#8) cause said Florida computer, 73, to determine that "program unit identification code" information matches preprogrammed schedule information which causes said Florida computer, 73, to cause a selected recorder of said station to commence recording, thereby causing said recorder to record the programming of program units J, L, and Q.
detecting said plurality of retransmission control signals and	page 345 lines 29-33 (Here each station would also detect the embedded identification codes and distance information a first time.) and page 348 line 30 through page 349 line	Transmitting said programming and said cue-to-select messages (#8) causes signal processing system apparatus at each of said stations to detect said cue-to-select messages (#8) and input said messages to the computers, 73, of said intermediate stations. Whenever any given computer, 73, of said stations determines that no further units will

	22 with (Here each station would also detect the embedded identification codes and distance information at least a second time, see citation of page 330, lines 10-19 below.) (See also page 331, line 17 *et seq.*)	be received, said computer, 73, causes apparatus of its station to cease receiving the transmission of said remote distribution station, alters its operating records to show that the receiver apparatus receiving said transmission is available for other use; and commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule. At the station of Fig. 6, receiving said select-Z- message (#8) causes computer, 73, to determine that program units Q, Y, W, and D have been received and that no further units will be received. Determining that no further units will be received causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer transmissions inputted from receiver, 53, to no output; to alter its operating records to show that the receiver apparatus receiving the transmission of said remote distribution station is no longer in use and is available; and to organize the locations of the recorded program units, D, Q, W, and Y, to play according to the schedule inputted by said distribution station in the fashion described above (in the paragraph of the section, "AUTOMATING INTERMEDIATE TRANSMISSION STATIONS," that begins, "Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming ... to play according to a given schedule").
	page 330 lines 10-19;	Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point).
receiving said at least one signal for	Page 342 lines 28-30 and	...informs said computer, 73, to select and record program units Q, D, Y, and W; to

comparison,		transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988
	page 343 line 5-11;	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L
each said plurality of intermediate transmission stations passing said retransmission control signals	Page 345 lines 30-33. (The embedded signals would be passed a first time.)	Transmitting said programming and said cue-to-select messages (#8) causes signal processing system apparatus at each of said stations to detect said cue-to-select messages (#8) and input said messages to the computers, 73, of said intermediate stations.
	Page 344 lines 30-31.	Embedded in each of said program units are SPAM messages containing appropriate "program unit identification code" information and distance information.
	Page 348 line 30 through page 349 line 22, and (The embedded signals would be passed at least a second time.)	Whenever any given computer, 73, of said stations determines that no further units will be received, said computer, 73, ... commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule.
	page 330 line 10-14;	Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73.
and said at least one signal for comparison to said automatic control unit,	page 342 lines 10-11;	Said remote station inputs schedule information to each computer, 73.
each said plurality of intermediate transmission stations storing said at least one unit of programming based	Page 326 lines 27-33.	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each

on comparisons performed by said automatic control unit in accordance with said plurality of retransmission control signals and		discrete unit of programming identified by its own "program unit identification code" information.
	page 345 lines 3-18;	Each message contains the same execution segment information that is addressed to ITS computers, 73, and instructs each computer, 73, to identify the information in the meter-monitor segment of said message, to compare said "code" information to the preprogrammed schedule information of said computer, 73, and if a match results, to select and record the programming of the program unit that follows said message, or if no match results, to not select and not record said programming. Each message contains meter-monitor "program unit identification code" information of the program unit that immediately follows.
	page 346 lines 3-15;	The computers, 73, of said intermediate stations are preprogrammed to process the information of said cue-to- select messages (#8), and receiving any given one of said messages causes each computer, 73, of one of said intermediate transmission stations to determine whether the "program unit identification code" information of said one matches schedule information previously inputted to said computer, 73, by said distribution station. Determining a match causes said computer, 73, to cause apparatus of its station to record the programming of the program unit transmitted immediately after said one. Not determining a match causes said computer, 73, to cause apparatus of its station not to record said program unit.
	page 346 line 34 through page 347 line 5,	Subsequently, receiving the select-Q-message (#8) causes said computer, 73, to determine that the "program unit identification code" information of unit Q matches preprogrammed schedule information which causes said computer, 73, to cause recorder, 76, to commence recording, thereby causing said recorder, 76, to record the programming of program unit Q which follows said select-Q-message (#8).
	page 349 lines 27-34, and	For example, transmitting the select-J-message (#8), the select-K-message (#8) the select-L-message (#8), the select-M-message

		(#8), the select-Q-message (#8), and the select-R-message (#8) causes signal processing apparatus at the aforementioned cable system head end station in Florida to input the aforementioned Florida computer, 73, that said distribution has instructed to select, record, and play program units Q, J, and L according to schedule
	page 348 line 30 through page 349 line 22 with (see also page 331, line 17 *et seq.*)	Whenever any given computer, 73, of said stations determines that no further units will be received, said computer, 73, causes apparatus of its station to cease receiving the transmission of said remote distribution station, alters its operating records to show that the receiver apparatus receiving said transmission is available for other use; and commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule.
retransmitting said at least one unit of programming in accordance with said plurality of retransmission control signals; and	page 351 lines 31-32, page 353 lines 11-23, Page 330 lines 5-35.	...to commence transmitting the locally originated transmission of unit Q. (At the station of said Florida computer, 73, receiving said first-network-cue-to-transmit-network message (#8) causes said Florida computer, 73, to cause the apparatus of said station to cease transmitting the locally originated transmission of unit J; to recommence transmitting said Cable News Network transmission; and to prepare to play the locally originated transmission of unit Q or unit L.) Subsequently, other SPAM cueing messages cause the computer, 73, of the station of Fig. 6; said Florida computer, 73; and the computers, 73, of others of said intermediate transmission stations to locate, position to play, and transmit automatically other local origination program units. Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, and capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM

		information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). To position the start point (or another selected point) of a given program unit at the play heads of a given recorder, 76, computer, 73, instructs switch, 75, to configure its switches so as to transfer the transmission input from said recorder, 76, to no output. Then by instructing recorder, 76, to play and decoder, 77, to detect SPAM information in a particular location or locations, computer, 73, causes decoder, 77, to detect and transfer to computer, 73, said program unit and distance information. Receiving said information causes computer, 73, to cause recorder, 76, to stop playing; to analyze said distance information in a predetermined fashion; and to compute the precise time required to rewind to reach the start of the program unit or to move fast forward to reach the end. Then automatically, computer, 73, causes said recorder, 76, first, to start rewinding or moving fast forward then to stop after the precise time elapses.
said plurality of intermediate transmission stations retransmitting said at least one unit of programming independently and at different times in accordance with said programmed automatic control unit.	Page 342 line 26 through page 343 line 17.	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to

		each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.

2. Claim 4

The claim is directed to the operation of the satellite uplink of claim 3 (and its associate satellite), which receives and transmits the 26 spot commercials with their retransmission control signals (e.g., identifiers) as well as the schedules with their comparison signals (e.g., identifiers), with the cable head ends operating independently and retransmitting at least one commercial at different times.

Claim 4 finds support in the specification at pages 324-354 and especially at pages 340-344.

Claim Language	Spec. Reference	Specification Language
A method of communicating at least one unit of programming	Page 340 lines 12-23 and	AUTOMATING INTERMEDIATE TRANSMISSION STATIONS ... EXAMPLE #8 Using the capacity described above for identifying, selecting, and recording received programming; for organizing recorded programming to play according to schedule; for playing selected organized programming on schedule; ... a remote distribution station can transmit to a plurality of intermediate transmission stations programming that is scheduled for delayed transmission, cause each station of said plurality automatically to select and retransmit programming according to its

		own specific schedule, ...
	page 340 line 33 through page 341 lines 4;	Said programming might be, for example, so-called "television spot commercials." Providing means where by one station can transmit programming to a plurality of intermediate transmission stations and cause each intermediate station to transmit its own specific selected units of said programming according to its own specific schedule
	page 344 lines 23-30;	At 4 A.M. eastern standard time, on January 28, 1988 said remote distribution station commences transmitting programming by satellite up-link means, well known in the art. Said programming consists of a sequence of the program units of 26 spot commercials, each of thirty seconds duration. In succession, said station transmits units A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z.
in a communications network,	for example, page 342 line 26 through page 343 line 4;	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network.
said communications network including at least one origination station and	page 340 lines 28-34;	One such remote distribution station might be, for example, a so-called "satellite uplink" that transmits programming, in a fashion well known in the art, to a plurality of receiver stations via a satellite transponder (said intermediate transmission stations being among said receiver stations). Said programming might be, for example, so-called "television spot commercials."
a plurality of	page 340 lines 18-20	a remote distribution station can transmit to

intermediate transmission stations,	and	a plurality of intermediate transmission stations
each said plurality of intermediate transmission stations	Page 341 lines 11-18.	...and cause each intermediate station to transmit its own specific selected units of said programming according to its own specific schedule....
	page 341 lines 26-29,	Among said intermediate stations are cable system head ends located in California and Florida, broadcast stations located in Texas and Washington, D.C., and the station of Fig. 6 which is, for example, in Vermont.
having a receiver,	for example, TV receiver 53 in figure 6A,	
	and,page 343 lines 21-32;	...instructions at each computer, 73, cause the computers, 73, at said intermediate transmission stations each, in a predetermined fashion, to commence preparing its particular station to receive and record information of the transmission of transponder 23 of the Galaxy 1 satellite. Automatically, at the station of Fig. 6, the computer, 73, instructs a selected earth station, 50, to move its antenna so as to receive transmissions from a satellite at the celestial coordinates of the Galaxy 1 satellite and instructs amplifier, 51, and receiver, 53, to amplify and tune as required to receive the transmission of the frequency of the transponder 23 of said satellite.
at least one selective transmission device operatively connected to said receiver for transferring programming to a transmitter,	for example, video recorder and player 76 in figure 6A,	
	page 347 lines 14-30,	Each computer, 73, of said intermediate stations is preprogrammed to account for and keep track of the quantity of time available for additional recording on the individual tapes loaded on the recorders (eg., 76 and 78) of its station, ...
an automatic control unit operatively connected to said selective transmission device,	for example, cable program controller and computer 73 in figure 6A,	
	page 326 lines 19-20,	Cable program controller and computer, 73,

		is the central automatic control unit for the transmission station.
	page 341 lines 30-34;	At each intermediate transmission station is a computer, 73, that is preprogrammed to receive, process, and record, in a predetermined fashion, program schedule information that is transmitted from said remote distribution station.
a detector operatively connected to said automatic control unit for detecting at least one signal,	for example, in signal processor 71 in figure 6A,	
	page 341 line 34 through page 342 line 2 with	And the signal processor system, 71, and the computer, 73, of each station are preprogrammed to process particular SPAM message instructions are transmitted from said remote distribution station.
	page 39 lines 1-11;	Fig. 2D shows one embodiment of a signal processing system. Said system contains signal processor, 26, and external decoders, 27, 28, and 29. Each said external decoder may be a TV signal decoder (Fig. 2A) or a radio signal decoder (Fig. 2B) or an other signal decoder (Fig. 2C) depending on the nature of the selected frequency inputted. As Fig. 2D shows, each decoder, 27, 28, and 29, receives one selected frequency and has capacity for transferring detected, corrected, converted, and possibly modified signals to signal processor, 26, at buffer/comparator, 8, and also to other station apparatus.
and said automatic control unit being programmed to perform in a station specific fashion, said method comprising the steps of:	Page 341 lines 30-34,	At each intermediate transmission station is a computer, 73, that is preprogrammed to receive, process, and record, in a predetermined fashion, program schedule information that is transmitted from said remote distribution station.
	and page 343 lines 5-7.	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently.
(1) receiving said at least one unit of programming,	Page 340 line 28 through page 341 line 4,	One such remote distribution station might be, for example, a so-called "satellite uplink" that transmits programming, in a fashion well known in the art, to a plurality of receiver stations via a satellite transponder (said intermediate transmission stations being among said receiver stations). Said

		programming might be, for example, so-called "television spot commercials." Providing means where by one station can transmit programming to a plurality of intermediate transmission stations and cause each intermediate station to transmit its own specific selected units of said programming according to its own specific schedule
	page 344 lines 23-30;	At 4 A.M. eastern standard time, on January 28, 1988 said remote distribution station commences transmitting programming by satellite up-link means, well known in the art. Said programming consists of a sequence of the program units of 26 spot commercials, each of thirty seconds duration. In succession, said station transmits units A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z.
said at least one unit of programming including a plurality of retransmission control signals;	page 344 lines 30-32.	Embedded in each of said program units are SPAM messages containing appropriate "program unit identification code" information and distance information.
(2) receiving a control signal which operates at said plurality of intermediate transmitter stations to communicate said at least one unit of programming to said transmitter; and	Page 342 lines 5-11.	...said remote distribution station commences contacting, individually and in turn in a fashion well known in the art, the computers, 73, of each of said intermediate station, via telephone or other data transfer network, 98 (which has capacity to communicate information individually between said remote station and each of said computers, 73). Said remote station inputs schedule information to each computer, 73.
(3) transmitting said at least one unit of programming,	Page 344 lines 28-30 and	In succession, said station transmits units A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, and Z.
wherein said at least one unit of programming is effective to cause said plurality of intermediate transmission stations to retransmit said at least one unit of programming independently and at different times in accordance with said programmed	page 344 lines 30-32,	Embedded in each of said program units are SPAM messages containing appropriate "program unit identification code" information and distance information.
	page 346 line 34 through page 347 line 5,	Subsequently, receiving the select-Q-message (#8) causes said computer, 73, to determine that the "program unit identification code" information of unit Q matches preprogrammed schedule information which causes said computer, 73, to cause recorder, 76, to commence recording, thereby causing said recorder, 76, to record the programming of program unit

automatic control unit.		Q which follows said select-Q-message (#8).
	page 349 line 35 through page 350 line 7,	Receiving said select-J-message (#8), the select-L-message (#8), and the select-Q-message (#8) cause said Florida computer, 73, to determine that "program unit identification code" information matches preprogrammed schedule information which causes said Florida computer, 73, to cause a selected recorder of said station to commence recording, thereby causing said recorder to record the programming of program units J, L, and Q.
	page 330 line 5 through page 331 line 16,	Computer, 73, has capacity for determining what programming is prerecorded on the magnetic tapes (or other recording media) loaded on the recorders, 76 and 78, and capacity for positioning the start points (or other selected points) of program units at the play heads of said recorders. Whenever programming is played on recorder, 76 or 78, decoder, 77 or 79 respectively, detects SPAM information embedded in the prerecorded programming played at the play heads of recorder, 76 or 78, and transmits said SPAM information to computer, 73. Said SPAM information can include not only "program unit identification code" information but also information regarding of the distance from the point on the tape at which a given SPAM message is embedded to the point on the tape where the program unit begins and ends (or to any other selected point). To position the start point (or another selected point) of a given program unit at the play heads of a given recorder, 76, computer, 73, instructs switch, 75, to configure its switches so as to transfer the transmission input from said recorder, 76, to no output. Then by instructing recorder, 76, to play and decoder, 77, to detect SPAM information in a particular location or locations, computer, 73, causes decoder, 77, to detect and transfer to computer, 73, said program unit and distance information. Receiving said information causes computer, 73, to cause recorder, 76, to stop playing; to analyze said distance information in a predetermined fashion; and to compute the precise time required to rewind to reach the start of the program unit or to move fast forward to

		reach the end. Then automatically, computer, 73, causes said recorder, 76, first, to start rewinding or moving fast forward then to stop after the precise time elapses. (Such distance information can be embedded as SPAM message information segment information anywhere in the programming that SPAM information can be embedded and need not repeat continuously--one embedded signal word is sufficient for this method to work. But a method wherein only one instance of distance information is embedded in any given program unit of programming has the disadvantage of causing too much apparatus at too many stations to spend too much time searching for said instance. In the preferred embodiment, distance information is embedded in the relevant normal transmission location of its programming and occurs periodically throughout a program unit with increasing frequency as the closeness of the start or end of the programming approaches and with one instance, in television programming, occurring on the first and fourth frames and the last two frames of the programming.)
	page 351 lines 31-32,	to commence transmitting the locally originated transmission of unit Q.
	page 353 lines 11-23,	(At the station of said Florida computer, 73, receiving said first-network-cue-to-transmit-network message (#8) causes said Florida computer, 73, to cause the apparatus of said station to cease transmitting the locally originated transmission of unit J; to recommence transmitting said Cable News Network transmission; and to prepare to play the locally originated transmission of unit Q or unit L.) Subsequently, other SPAM cueing messages cause the computer, 73, of the station of Fig. 6; said Florida computer, 73; and the computers, 73, of others of said intermediate transmission stations to locate, position to play, and transmit automatically other local origination program units.
	page 342 line 26 through page 343 line 17.	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D,

		Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.

3. Claim 5

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein each said plurality of intermediate transmission stations includes a plurality of selective transmission devices and	Page 324 line 35, page 341 lines 30-31, page 347 lines 14-18;	...recorder/players, 76 and 78 At each intermediate transmission station is a computer, 73 Each computer, 73, of said intermediate stations is preprogrammed to account for and keep track of the quantity of time available for additional recording on the individual tapes loaded on the recorders (eg., 76 and 78) of its station,
said automatic control unit is programmed with information	page 326 lines 19-24;	Cable program controller and computer, 73, is the central automatic control unit for the transmission station. Computer, 73, has an

including one of operating speeds of said plurality of selective transmission devices, connections of said plurality of selective transmission devices, and capacities of said plurality of selective transmission devices,		installed clock and is preprogrammed with information on the operating speeds and capacities of all station apparatus and the connections of said apparatus with matrix switch, 75.
said method further comprising the step of transmitting from said at least one origination station an instruct signal which is effective to cause at least one of said plurality of intermediate transmission stations to perform one of	page 342 lines 10-11,	Said remote station inputs schedule information to each computer, 73.
	page 343 lines 5-7,	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently.
	page 348 line 30 through page 349 line 22;	Whenever any given computer, 73, of said stations determines that no further units will be received, said computer, 73, causes apparatus of its station to cease receiving the transmission of said remote distribution station, alters its operating records to show that the receiver apparatus receiving said transmission is available for other use; and commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule. At the station of Fig. 6, receiving said select-Z- message (#8) causes computer, 73, to determine that program units Q, Y, W, and D have been received and that no further units will be received. Determining that no further units will be received causes computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer transmissions inputted from receiver, 53, to no output; to alter its operating records to show that the receiver apparatus receiving the transmission of said remote distribution station is no longer in use and is available; and to organize the locations of the recorded program units, D, Q, W, and Y, to play according to the schedule inputted by said distribution station in the fashion described above (in the paragraph of the section, "AUTOMATING INTERMEDIATE

		TRANSMISSION STATIONS," that begins, "Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming ... to play according to a given schedule").
(1) storing different units of said at least one unit of programming at different selective transmission devices of said plurality of selective transmission devices and	page 334 lines 1-2;	computer, 73, causes units Y and W to be located on different recorders
(2) storing at least two units of said at least one unit of programming in a specific order.	page 334 lines 4-5.	and units Y then D to be located in sequence on the same recorder

4. Claim 6

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein each automatic control unit is programmed to control a storage device,	Page 341 lines 30-34 or,	At each intermediate transmission station is a computer, 73, that is preprogrammed to receive, process, and record, in a predetermined fashion, program schedule information that is transmitted from said remote distribution station.
	lines 32-33;	said computer, 73, (after causing recorder, 76, to cease recording)
said method further comprising the step of instructing different intermediate transmission stations of said plurality of intermediate transmission stations to store and retransmit different units of said at least one unit of programming.	page 343 lines 5-7 with	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently.
	page 342 line 26 through page 343 line 17.	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern

		standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.
	Page 348 line 30 to page 349 line 6.	Whenever any given computer, 73, of said stations determines that no further units will be received, said computer, 73, causes apparatus of its station to cease receiving the transmission of said remote distribution station, alters its operating records to show that the receiver apparatus receiving said transmission is available for other use; and commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule. At the station of Fig. 6, receiving said select-Z- message (#8) causes computer, 73, to determine that program units Q, Y, W, and D have been received...

5. Claim 7

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said	Page 326 lines 19-24,	Cable program controller and computer, 73, is the central automatic control unit for the

automatic control unit is programmed to control a switch,		transmission station. Computer, 73, has an installed clock and is preprogrammed with information on the operating speeds and capacities of all station apparatus and the connections of said apparatus with matrix switch, 75.
	page 328 lines 14-17,	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.
	page 347 lines 14-21,	Each computer, 73, of said intermediate stations is preprogrammed to account for and keep track of the quantity of time available for additional recording on the individual tapes loaded on the recorders (eg., 76 and 78) of its station, and receiving any given message of said cue-to- select messages (#8) can cause any given computer, 73, to cause the apparatus of its station to switch from a primary to a secondary recorder of said station.
	page 347 lines 30-35;	At the station of Fig. 6, receiving said select-R-message (#8) causes said computer, 73, (after causing recorder, 76, to cease recording) to cause matrix switch, 75, to configure its switches to commence transferring the transmission from receiver, 53, to recorder, 78,
said method further comprising the step of instructing different intermediate transmission stations of said plurality of intermediate transmission stations to cause said switch to communicate a specific unit of said at least one unit of programming at one of different times and on different channels.	page 343 lines 5-7 with page 342 line 26 through page 343 line 17.	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting

		the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.

6. Claim 8

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein each of said plurality of intermediate transmission stations retransmits programming on a plurality of channels,	Page 341 lines 26-29,	Among said intermediate stations are cable system head ends located in California and Florida, broadcast stations located in Texas and Washington, D.C., and the station of Fig. 6 which is, for example, in Vermont.
	page 324 lines 14-21,	may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	page 342 line 24 through page 343 line 17;	cause the apparatus of said station to transmit each of said program units to the field distribution system, 93, of said station. For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer,

		73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.
said method further comprising the step of instructing different intermediate transmission stations of said plurality of intermediate transmission stations to transmit a specific unit of said at least one unit of programming on different channels.	page 343 lines 5-7 with page 342 line 26 through page 343 line 17.	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting

		the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.

7. Claim 9

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said at least one signal for comparison identifies said at least one unit of programming,	Page 326 line 27-33;	Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
said method further comprising the step of causing different intermediate transmission stations of said plurality of intermediate transmission stations to retransmit said identified at least one unit of programming at one	page 343 lines 5-7 with page 342 line 24 through page 343 line 17.	In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. cause the apparatus of said station to transmit each of said program units to the field distribution system, 93, of said station. For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at

of different times and on different channels based on said at least one signal for comparison.		2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.

8. Claim 10

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said at least one signal for comparison and said retransmission control signals comprise at least one schedule,	Page 342 lines 10-11, page 328 line 8-13, page 342 line 24	Said remote station inputs schedule information to each computer, 73. By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. cause the apparatus of said station to

	through page 343 line 17;	transmit each of said program units to the field distribution system, 93, of said station. For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.
said method further comprising the step of programming at least one of said plurality of intermediate transmission stations to select said at least one unit of programming in accordance with said at least one schedule.	page 342 lines 26-29. Page 343 lines 18 to 26.	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W.... Subsequently, at a particular time--more precisely, at 3:50 A.M. eastern standard time, on January 28, 1988--said schedule information and particular preprogrammed receive- scheduled-programming instructions at each computer, 73, cause the computers, 73, at said intermediate transmission stations each, in a

		predetermined fashion, to commence preparing its particular station to receive and record information of the transmission of transponder 23 of the Galaxy 1 satellite.

9. Claim 11

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein a portion of said plurality of retransmission control signals instruct said plurality of intermediate transmission stations to retransmit programming immediately,	Page 326 lines 30-31.	Such input information can include the complete programming schedule of the station of Fig. 6,
	Page 328 lines 8-22,	By comparing selected meter-monitor information of said message information with information of the programming schedule received earlier from input, 74, and/or network, 98, computer, 73, can determine, in a predetermined fashion, when and on what channel or channels the station of Fig. 6 should transmit the programming of each received program unit. Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded. Determining that particular incoming programming is scheduled for immediate retransmission can cause computer, 73, to cause matrix switch, 75, to configure its switches so as to transfer said incoming programming to a scheduled output channel.
	Page 353 lines 4-16.	Receiving said first-network-cue-to -transmit-network message (#8) causes the computer, 73, of the station of Fig. 6, to cause the apparatus of said station, as described above, to cease transmitting to field distribution system, 93, the locally originated transmission of unit Q; to recommence transmitting said Cable News Network transmission; and to prepare to play the locally originated transmission of unit Y. (At the station of said Florida computer, 73, receiving said first-network-cue-to-transmit-network message (#8) causes said Florida computer,

		73, to cause the apparatus of said station to cease transmitting the locally originated transmission of unit J; to recommence transmitting said Cable News Network transmission; Subsequently, receiving the select-Q-message (#8) causes said computer, 73, to determine that the "program unit identification code" information of unit Q matches preprogrammed schedule information which causes said computer, 73, to cause recorder, 76, to commence recording, thereby causing said recorder, 76, to record the programming of program unit Q which follows said select-Q-message (#8).
said method further comprising the step of selecting said at least one unit of programming to store and retransmit based on said at least one signal for comparison.	page 346 line 34 through page 347 line5.	

10. Claim 12

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said automatic control unit is programmed to organize a portion of said at least one unit of programming in a specific order,	Page 348 line 30 through page 349 line 22, and	Whenever any given computer, 73, of said stations determines that no further units will be received, said computer, 73, ... commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule. ...in the fashion described above (in the paragraph of the section, "AUTOMATING INTERMEDIATE TRANSMISSION STATIONS," that begins, "Computer, 73, has capacity for automatically organizing the locations of units of prerecorded programming ... to play according to a given schedule").
said method further comprising the step of causing different intermediate transmission stations of said plurality of intermediate transmission stations to organize said portion of said at least one unit of programming in different orders.	Page 342 line 24 to page 343 line 17.	For example, in the case of the computer, 73, of the station of Fig. 6, said remote distribution station informs said computer, 73, to select and record program units Q, D, Y, and W; to transmit program unit Q at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit Y at 2:45:00 PM eastern standard time, on January 29, 1988 on the cable channel transmitting the Cable News Network; to transmit program unit W at 2:45:00 PM eastern standard time, on January

		29, 1988 on the cable channel transmitting the USA Cable Network; to transmit program unit D at 9:15:30 PM eastern standard time, on January 30, 1988 on the cable channel transmitting the Cable News Network. In inputting schedule information to each computer, 73, said remote distribution station instructs different computers, 73, to operate differently. For example, said remote station instructs a particular Florida computer, 73, at a cable system head end station in Florida (which computer, 73, is not the computer, 73, of the station of Fig. 6) to select and record program units Q, J, and L; to transmit program unit J at 2:30:30 PM eastern standard time, on January 29, 1988 on the cable channel of said station in Florida that transmits the Cable News Network; and to transmit units Q and L subsequently at particular times on the cable channel of said station that transmits the Spanish International Network.
	page 348 line 30 through page 349 line 4.	Whenever any given computer, 73, of said stations determines that no further units will be received, said computer, 73, causes apparatus of its station to cease receiving the transmission of said remote distribution station, alters its operating records to show that the receiver apparatus receiving said transmission is available for other use; and commences automatically organizing, in the fashions described above, the order of the program units so selected and recorded and playing said units according to its contained schedule.

11. Claim 13

Claim Language	Spec. Reference	Specification Language
The method of claim 3, wherein said automatic control unit is programmed to insert at least one of a data and control instruction	Page 375 lines 7-12,	The program unit Q of example #10 is identical to the program unit Q of example #9, and each intermediate transmission station must generate transmit its own, station specific program instruction set and data module set information that contains its own, station specific formula- and-item-of-this-transmission information.

in said at least one unit of programming,	page 355 lines 18-26,	Computer, 73, is preprogrammed to process combined medium programming. When the aforementioned remote distribution station inputs information to computer, 73, via network, 98, regarding unit Q, said distribution station inputs information that Q is particular combined medium programming and instructs computer, 73, to commence particular program instruction set generation in a particular fashion at a particular time interval prior to the scheduled playing of Q.
	Page 381 lines 3-10,	One difference between example #9 and example #10, which is based on the preprogrammed schedule information of each intermediate transmission station, is that executing the information of the generate-set-information message (#10) causes the generated program instruction set and data module set information to be recorded at non-volatile, disk memory whereas in example #10 the generated information may be recorded merely at RAM.
	page 384 lines 30-34,	Receiving the information of the particular **data- module-set message** (#10) of the computer, 73, of its station causes each generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82,....
	page 386 lines 7-11,	Receiving the information of the particular **program- instruction-set message** (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82,....
	Page 59 lines 29-31.	THE ORGANIZATION OF MESSAGE STREAMS - MESSAGES, CADENCE INFORMATION, AND END OF FILE SIGNALS All of the information transmitted with a given header is called a "message." Each header begins a message, and each message begins with a header. More specifically, a message consists of all the SPAM information, transmitted in a given

		transmission, from the first bit of one header to the last bit transmitted before the first bit of the next header. A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
said method further comprising the step of causing different intermediate transmission stations of said plurality of intermediate transmission stations to insert one of	page 24 lines 14-16;	a set of instructions that is loaded and run is called a "program instruction set."
	page 383 lines 21-31,	Then said studio embeds in said transmission and transmits a SPAM message is addressed to ITS computers, 73, and that contains execution and meter-monitor segments. (Said message is called, hereinafter, the "transmit-data- module-set message (#10)".) Receiving said transmit-data- module-set message (#10) causes each of said computers, 73, to cause stripping and embedding to commence; to generate a particular first outbound SPAM message that includes information of the data file, DATA_OF.ITS, at its data-set- to-transmit RAM memory; and to cause said message to be transmitted to its field distribution system, 93.
	page 384 line 30 through page 385 line 12;	Receiving the information of the particular data- module-set message (#10) of the computer, 73, of its station causes each generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular data-module-set message (#10) of said station to said system, 93. Then said program originating studio embeds in the normal transmission location of said transmission and transmits a SPAM message that is addressed to ITS computers, 73, and that contains execution and meter-monitor segments. (Said message is called, hereinafter, the "transmit-and-execute-program-instruction-set message (#10)".) Receiving said message causes each of said computers, 73, to generate a second outbound SPAM message that includes information of the program instruction set at its program- set-to-transmit RAM memory

(i) different data of said at least one of a data and control instruction and	page 379 line 31 through page 380 line 6 and	In precisely the fashion that applied in example #9, executing the information of said intermediate generation set causes said computer, 73, to select data, from among the local-formula-and-item information of said station, including the aforementioned "Nabisco Zweiback Teething Toast" and the street address of every one of said supermarket chain's markets in the local vicinity of the station of Fig. 6, and to record said selected data on said memory disk in a data file named DATA_OF.ITS. In so doing, said computer, 73, generates said data module set of Q.1.
	page 380 lines 24-34;	Executing the information of said intermediate generation set causes said computer, 73, also to select particular data, including said "Cheerios Toasted Oat Cereal" and the street address of every one of said supermarket chain's markets in the locality of said second intermediate station and to record said selected data at said memory unit in a data file named DATA_OF.ITS that corresponds in content to the file of the same name generated a the intermediate station of Fig. 6. [Hereinafter, the data module set generated at said second station is called the "data module set of Q.2"
(ii) a different control instruction of said at least one of a data and control instruction in said at least one unit of programming.	page 379 lines 5-31 versus	At the station of Fig. 6, for example, executing the information of said intermediate generation set causes the computer, 73, in precisely the fashion that applied in example #9, to compute the value of a particular variable b to be 62.21875; to computes the value of a particular variable c to be 2.117; and to replaces particular variable values, a, b, and c, in a particular so-called "higher language line of program code" to become formula-and-item-of- this-transmission information of: $Y = 1000.00 + 62.21875 + (2.117 * X)$ to select, compute, and replace other variable information until complete program instruction set information exists in higher language code at particular memory; to compile said higher language information; to link the information so complied with other compiled information; and to record the

		information so computed, compiled, and linked (which is complete information the program instruction set of Q of the station of Fig. 6) in a file named "PROGRAM.EXE", in a fashion well known in the art, on a computer memory disk of computer, 73. In so doing, said computer, 73, generates the specific program instruction set version--that is, the program instruction set of Q.1--that applies to the particular discounts and specials in effect at the particular markets in the vicinity of said station and at the particular time of the network transmission of Q.
	page 380 lines 7-24,	At said second intermediate transmission station, executing the information of said intermediate generation set causes the computer, 73, of said station to compute the values of variables b and c as 132.2362 and 2.0882 respectively; to replace variable values, a, b, and c, with formula-and-item-of-this-transmission information of: $Y = 1000.00 + 132.2362 + (2.0882 * X)$ to process other variable information; and to compile, link, and record information at a particular peripheral memory unit of said computer, 73, in a file named "PROGRAM.EXE" that is the specific program instruction set of said second intermediate station. [Hereinafter, the program instruction set generated at said second station is called the "program instruction set of Q.2", signifying that said set is a second version of complete program instruction set information of said instance of the network transmission of Q.]
	note particularly, page 379 line 15 versus page 380 line 14.	$Y = 1000.00 + 62.21875 + (2.117 * X)$ $Y = 1000.00 + 132.2362 + (2.0882 * X)$

12. Claim 14

Claim Language	Spec. Reference	Specification Language
The method of claim 3, further comprising the step of	Page 352 lines 18-30,	Causing the apparatus of the station of Fig. 6 to commence transmitting the locally originated transmission of unit Q to field

documenting the transmission of a specific unit of said at least one unit of programming at specific intermediate transmission stations of said plurality of intermediate transmission stations.	page 353 line 29 through page 354 line 3.	distribution system, 93, causes the signal processor of the signal processor system, 71, and the signal processor, 96, of station of Fig. 6 to retain signal record information of the meter-monitor information of SPAM messages embedded in the prerecorded programming of said unit Q, as described above; causes said processors (in the fashion described in example #3 above) each to record previously retained signal record information of the prior programming-- i.e., programming of said Cable News Network-- and may cause one or both of said processors to transmit signal record information or one or more remote auditing stations. In this fashion, a remote distribution station can deliver prerecorded programming to a plurality of intermediate transmission stations, control the automatic time-delayed insertion of specific program units of programming into other programming transmissions at specific intermediate transmission stations according to the specific schedule of each station, and cause records to be recorded and transmitted to a remote auditing station or stations that document which specific program units were transmitted at which specific station at what specific times.

13. Claim 15

Claim Language	Spec. Reference	Specification Language
The method of claim 3, further comprising the step of transmitting at least one data from said plurality of intermediate transmission stations to a remote data collection station.	Page 340 lines 23-27.	...cause signal processing apparatus automatically to transmit to a remote auditing station or stations signal records that document the transmission of specific program units at the specific stations of said plurality....

14. Claim 16

Claim Language	Spec. Reference	Specification Language
The method of claim 3, further comprising the step of transmitting said at least one signal for comparison and	Page 430 lines 15-19.	The cable program controller & computer, 73, of each intermediate station is preprogrammed with schedule information that reflects the particular time at which and the channel on which said station will retransmit said "Wall Street Week" program.
	Page 431 line 26 to page 431 line 18.	Executing said incorporate-and-retain-Select-WSW-Program-Unit-SPAM-message instructions causes said computer, 73, to generate particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information and a particular Select-WSW- Program-Unit SPAM message and to retain said message at particular Select-Program-Unit-Message-to-Transmit memory. Automatically, said computer, 73, generates said please-fully-enable-WSW-on-CC13-at-particular-8:30 information by replacing the information of particular variables, XXXX and YYYYYYYYYYYYY, in said generally applicable please-fully-enable-WSW-on-XXXX-at-YYYYYYYYYYYYY information with said CC13 and said particular-8:30 information that are preprogrammed at said computer, 73, and that reflect that the schedule of the intermediate station of said computer, 73. Said Select-WSW-Program-Unit message consists of an "01" header; an execution segment of information that is identical to the aforementioned available-television-program information; a meter-monitor segment that consists of the meter-monitor information of said Prepare-To-Retransmit-WSW message plus information that identifies said intermediate station (the format information of said meter-monitor information being modified to reflect the addition of said information that identifies said station); appropriate padding bits; an information segment of generally applicable determine-whether-to-select instructions of said Transmit- Select-WSW message that contain said particular specific-WSW information and said please-fully-enable-WSW-on-CC13-at-particular-8:30 information; and an end of

		file signal.
	Page 434 lines 27-33.	In due course, executing said timing instructions causes the computer, 73, of the station of Fig. 6 to commence transmitting the SPAM message at its particular Select-Program-Unit-Message-to-Transmit memory, which is its station specific Select-WSW-Program-Unit SPAM message, embedded in the normal transmission location of cable channel 13.
said plurality of retransmission control signals from a first of said plurality of intermediate transmission stations.	Page 351 lines 31-32 with page 344 lines 30-32 and page 13 lines 26-28.	...commence transmitting the locally originated transmission of unit Q Embedded in each of said program units are SPAM messages containing appropriate "program unit identification code" information and distance information. Embedded signals provide several advantages. They cannot become separated inadvertently from the programming and, thereby, inhibit automatic processing.

15. Conclusion

Applicants respectfully submit that the pending claims of the subject application particularly point out and claim the subject matter sufficiently for one of ordinary skill in the art to comprehend the bounds of the claimed invention. The test for definiteness of a claim is whether one skilled in the art would understand the bounds of the patent claim when read in light of the specification, and if the claims so read reasonably apprise those skilled in the art of the scope of the invention, no more is required. *Credle v. Bond*, 25 F.3d 1556, 30 USPQ2d 1911 (Fed. Cir. 1994). The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994). Applicants have amended the claims to enhance clarity and respectfully submit that all pending claims are fully enabled by the specification and distinctly indicate the metes and bounds of the claimed subject matter.

D. Support for Previous Amendment of "signal words" to "signal units"

During the interview of July 15th, 1999, the Examiners requested Applicants to demonstrate that no new matter was introduced into the specification in the amendment entered on October 21, 1998 which changed the following language in the specification on page 37 lines 22-25:

> "Controller, 39, 44, or 47, is preprogrammed to receive [units] words of signal information, to assemble said [units] words into signal [words] units that subscriber station apparatus can receive and process, and to transfer said [words] units to said apparatus."

Applicants submit that this amendment was merely made to correct a typographical mistake on their part. Additionally, specification support to verify the necessity of the amendment is found in the following language from page 14 lines 22-35.

> In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
>
> (The term "**signal unit** " hereinafter means one complete signal instruction or information message unit.... The term "**signal word**" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission....) *Emphasis added.*

From the above language, a "**signal unit**" is "one complete signal instruction or information message unit." *Words* of signal information are received and assembled into *signal units*, or completed instructions, for the subscriber station apparatus to receive, process and transfer. Thus, it should be clear from this passage that no new matter was introduced with the amendment and Applicants urge the PTO to maintain and/or enter the previous amendment as appropriate under 37 C.F.R. § 1.118 (a).

III. CONCLUSION

In accordance with the foregoing it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Thus, there being no further outstanding objections or rejections, the application is submitted as being in a condition for issuance, which action is earnestly solicited.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	
John C. Harvey and James W. Cuddihy	Examiner: WOLINSKY, S.
Serial No. 08/484,858	Group Art Unit: 2742
Filed: June 7, 1995	Atty. Docket. 05634.0362
For: **SIGNAL PROCESSING APPARATUS AND METHODS**	

BOX: ISSUE FEE - AMENDMENT

Assistant Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

I. **REQUEST TO ENTER AMENDMENT AFTER NOTICE OF ALLOWANCE AND AFTER PAYMENT OF ISSUE FEE UNDER 37 C.F.R. § 1.312(A)**

This amendment after the notice of allowance and payment of the issue fee is submitted in response to the interviews on June 16th, July 1st and 15th, 1999 and per request of the Examiners of the PTO. Applicants respectfully request that the following amendments be considered and entered into the above-captioned application and the claims be permitted to issue:

In the Claims:

9. (Three Times Amended) A method of communicating subscriber station information from a subscriber station to one or more remote stations, said method comprising the steps of:

(1) storing [subscriber] first data which are subscriber data at [the] said subscriber station;

(2) receiving and detecting at said subscriber station, in an information transmission received from said one or more remote stations, one or more instruct signals which operate to cause at least [some part] a portion of a combined medium presentation to be outputted at an output device of said subscriber station;

(3) [generating one or more first subscriber specific] computing, second data at said subscriber station by processing at least one of said first data in accordance with said one or more instruct signals [by processing said stored subscriber data];

(4) inputting a subscriber response to said outputted combined medium presentation, wherein said outputted combined medium presentation includes (i) one of an image and a sound received at said subscriber station from a remote transmitter station and (ii) a portion of said second data; and

(5) transferring one [or more second subscriber specific] datum of said first data and said second data from said subscriber station to said one or more remote stations based on said subscriber response.

16. (Twice Amended) A method of communicating subscriber station information from a subscriber station to one or more remote stations, comprising the steps of:

receiving an information transmission at a transmission station;

generating one or more instruct signals at said transmission station, said one or more instruct signals effective to cause said subscriber station to generate one or more subscriber specific data in accordance with said one or more instruct signals and transfer said one or more subscriber specific data to said one or more remote stations based on a subscriber response to a combined medium presentation output at an output device at said subscriber station, said combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more instruct signals; and

transmitting said information transmission and said one or more instruct signals from said transmission station to said subscriber station.

17. (Twice Amended) A method of communicating subscriber station information from a subscriber station to one or more remote stations, comprising the steps of:

receiving, at a first transmission station, an information transmission to be transmitted;

receiving a first instruct signal which is effective to accomplish one of:

(a) effecting a second transmission station to generate one or more second instruct signals, said one or more second instruct signals effective to cause said subscriber station to generate one or more subscriber specific data in accordance with said one or more second instruct signals and transfer said one or more subscriber specific data to said one or more remote stations based on a subscriber response to a combined medium presentation outputted at an output device at said subscriber station, said combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote

source and (ii) a datum computed at said subscriber station in response to said one or more instruct signals; and

(b) effecting a receiver station to generate one or more second instruct signals, said one or more second instruct signals effective to cause said subscriber station to generate one or more subscriber specific data in accordance with said one or more second instruct signals and transfer said one or more subscriber specific data to said one or more remote stations based on a subscriber response to a combined medium presentation outputted at an output device at said subscriber station, said combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more instruct signals;

receiving a transmitter control signal which operates to communicate at least one of said first and second instruct signals to a transmitter; and

transmitting, from said first transmission station, said information transmission and said first instruct signal, wherein said information transmission and said first instruct signal are transmitted from said first transmission station (i) in response to said transmitter control signal, or (ii) with said transmitter control signal.

In claim 29, line 1, please delete "detected".

34. (Twice Amended) A method of communicating subscriber station information from a subscriber station to one or more remote stations including:

receiving one or more information transmissions at said subscriber station, said information transmissions including generally applicable information and a plurality of combining control signals, said generally applicable information including (1) some of a user specific combined medium presentation and (2) video to serve as a basis on which to present said some of a user specific combined medium presentation, at least said plurality of combining control signals being received from said one or more remote stations;

storing [at least some] a portion of said generally applicable information and said plurality of combining control signals at said subscriber station;

outputting said video at a video monitor;

selecting user specific information to output by processing said generally applicable information in accordance with at least a first of said plurality of combining control signals;

outputting said selected user specific information in a series of times of specific relevance in response to at least a second of said plurality of combining control signals;

inputting at said subscriber station a first subscriber response to said user specific combined medium presentation, said user specific combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more of said plurality of combining control signals; and

transferring one or more subscriber specific data from said subscriber station to said one or more remote stations based on said first subscriber response.

II. REMARKS

A. Summary of Amendments to the Claims

Claim 9, 16, 17, 29, and 34 are amended. Claims 9-46 are pending in the application.

It is proposed to amend claim 9 to positively recite that the data stored in step (1) are subscriber data. In step (2) above, it is positively set forth that the one or more instruct signals that are detected are also received. It is further recited that the combined medium presentation to be outputted at the subscriber station is to be output at an output device. In step (3) above, "one or more first subscriber data" has been relabeled "second data." The order of the phrasing of step (3) has also been rearranged for clarity. In step (4), the combined medium presentation has been positively defined. Step (5) above is amended to be consistent with the amendments to steps (1) and (3).

It is proposed herein to amend claims 16 and 17 to positively recite that the combined medium presentation is output at an output device at the subscriber station and also to positively define the combined medium presentation.

Claim 29 is amended above to provide proper antecedent basis for said one or more instruct signals.

Claim 34, as amended above, positively defines the combined medium presentation.

Applicants respectfully submit that the amendments proposed herein include no new matter. The amendments are intended to simplify the issues discussed with the Examiner at the recent interviews by positively reciting significant limitations that were previously implied or considered ambiguous.

B. General Overview and Summary of Applicants' 1987 Disclosure

While the Examiners suggest that Applicants' 1987 disclosure may appear to contain a series of isolated examples, Applicants maintain that their examples are carefully tied together. An essential feature of Applicants' disclosure in the specification is that they explain their invention and the various embodiments thereof and their interrelationship. The following description provides the complete context of the disclosure, illuminating important timing and error correction considerations and explaining the interrelationship of Applicants' full system.

One clear series of teachings is focused around **the "Wall Street Week" combined image of Fig. 1C.** A first part of this image is received in a television signal. Fig. 1B shows this first part. A second part, Fig. 1A, is generated at the viewer station by processing data, which exists at the viewer station, in response to control instructions which are detected in the television signal. In a section entitled "One Combined Medium" (pages 19-28) at the beginning of the Description of the Preferred Embodiments, a sequence of events associated with the display of Fig. 1C is disclosed. A first series of instructions invoke broadcast control (defined at page 23 lines 24-26), which includes clearing video RAM. A second series of instructions construct the Fig. 1A image at video RAM. The Fig. 1B image is received in the "Wall Street Week" program, and is explained by the program host as showing the performance of the Dow Industrials. When the host says, "And here is what your portfolio did," an instruction in the television signal executes "GRAPHICS ON" which combines the Figs. 1A and 1B images and displays Fig. 1C. After an interval of time during which corresponding personalized programming is displayed simultaneously to every properly equipped member of the "Wall Street Week" audience, an instruction executes

"GRAPHICS OFF" and causes Fig. 1A no longer to be displayed. The disclosure defines "combining synch command" at page 26 lines 20-24, and explains that instructions that construct the Fig. 1A, execute "GRAPHICS ON", and execute "GRAPHICS OFF" each comprise a combining synch command. Subsequently, these are referred to throughout the disclosure as the **"first", "second", and "third combining synch commands of the 'Wall Street Week' example".**

After providing a detailed disclosure of apparatus of the invention (called "SPAM" apparatus) and of the composition of messages and message streams, four examples, between pages 108 and 248, disclose alternate ways of processing the first, second, and third combining synch commands of the 'Wall Street Week' example. These examples reference Fig. 3. Example #1 describes transferring the messages to an addressed controller and causing the controller to respond. Examples #2 and #4 disclose alternate decryption techniques whereby portions of the message stream containing the three combining synch commands are selectively decrypted. Examples #3 and #4, which reference Fig. 3A as the controller of decoders 203 and 205C, disclose the collection of metering data (e.g., for billing purposes) and monitoring data (e.g., for TV viewership ratings) based on content of the first two combining synch commands. Each example discloses control of a sequence of events, and describes carefully how its sequence occurs within the broader context of "One Combined Medium" at pages 19-28. Specifically each of examples #1, #2, #3, and #4 elaborates on the portion of "One Combined Medium" from page 24 line 1 to page 27 line 7. In these four examples, each later example builds upon concepts disclosed and definitions provided in the earlier examples.

Example #5 (pages 248-271) focuses on functions performed by Signal Processor 200 in Fig. 3 *concurrently with* the sequence of events described in "One Combined Medium" *and at apparatus which perform* the metering and monitoring

of examples #3 and #4. The first combining synch command of the "Wall Street Week" example is also processed in example #5. Example #5 introduces concepts that are subsequently used (e.g., in example #7) to teach automatic selection of programming, including the "Wall Street Week" program itself. At pages 271-278, the disclosure explains how the metering and monitoring, in particular of the first combining synch command of the "Wall Street Week" example, causes the content of recorder 16 to exceed a predetermined level which causes the Signal Processor to telephone a remote data collection station and dump the content of recorder 16 to the remote station.

Example #7, which occurs at pages 288-312 and 427-447 and incorporates concepts of example #6, teaches selection of the "Wall Street Week" program itself, interconnection of subscriber station apparatus to provide station specific processing *alternatives* based on pre-stored instructions, and decryption of the "Wall Street Week" program transmission. The disclosure teaches (e.g., page 311 lines 10-16) how this causes the station (now of Fig. 4 or Fig. 7 which are subscriber stations of the intermediate transmission station of Fig. 6) to perform the functions "One Combined Medium" and examples #1-#4.

The disclosure also cites (pages 322-333) and sites the "Wall Street Week" monitoring and metering functions within the extended Fig. 5 monitoring disclosed at pages 312-314.

In "Controlling Computer-Based Combined Media Operations" (pages 447-457), the disclosure teaches how the "Wall Street Week" subscriber portfolio contents and stock price data come to be up-to-date when the program begins, teaches that the Fig. 1C combining is the first of a series of overlays, teaches error detection techniques to prevent the display of incorrect or incomplete overlays, and teaches error correction techniques to enable slow viewer station computers that fall behind to catch up.

A second clear series of teachings is focused around a television spot commercial called **program unit Q.**

Within the disclosure of automated intermediate transmission station functionality that begins at page 324, program unit Q is introduced at page 331 lines 21-22 in a passage that teaches organizing units of prerecorded programming to play according to schedule.

Example #8 (pages 340-354) discloses that program unit Q is a television spot commercial and teaches how it is transmitted with other spot commercials from a satellite up-link to automated cable TV head-ends which are caused automatically to select, store, and retransmit the spot commercials at different times and on different channels.

Example #9 (pages 354-374) discloses that program unit Q is a combined medium television spot commercial and teaches how one of the automated head-ends of example #8 creates and transmits according to a schedule a time specific and transmitter specific control signal with data that applies to specials and discounts in a local supermarket at the scheduled time of transmission. The relationship of examples #8 and #9 is discussed at page 355 lines 15-32.

Example #10 (pages 374-390) teaches how the automated head-end (as one of a plurality of such head-ends each) creates the time specific and transmitter specific control signal with data and inserts the control signal into a network broadcast of combined medium program unit Q.

The subscriber station functionalities associated with both examples #9 and #10 (see page 469 line 1) are taught at pages 469-516. Each of a plurality of viewer stations creates receiver specific output in response to the control signal(s) as well as selecting viewer specific output from among the transmitted transmitter specific data. Each outputs its output in a series of time intervals of specific relevance. The relationship of pages 469-514 to pages 324-390 is explicit

and unmistakable in that every disclosure (e.g., 354-374, 374-390, and 469-516) teaches a sequence of more than thirteen messages with matching names. These include, for example, the **"transmit-and-execute-program-instruction-set message"** (page 371 lines 9-10, page 385 lines 7-8, and page 484 lines 1-2) and **"program-instruction-set message"** (page 371 lines 17-19, page 385 lines 14-16, and 484 line 5). Furthermore, corresponding named ones of these messages are disclosed in each respective passage (e.g., 354-374, 374-390, and 469-516) to have functionally identical content and to cause identical functioning at the subscriber stations. The passage at page 514 lines 8-30 states this.

Having disclosed all the individual elements and procedures of their system, Applicants finish their disclosure by describing a cycle in "Summary Example #11". The cycle involves controlling the disclosed system on a large scale to interconnect and distribute information to users, create control signals, create output in response to the control signals, display and explain the information and output, and receive and process feedback in order to repeat the cycle. Important disclosed functions such as preprogramming operating system instructions (page 537), creation of control signals (pages 541-547), creation of output for display (e.g., pages 548-551), display of the output (e.g., middle of page 552 to top of page 554), reception of feedback (pages 555-556), and distribution of new information based on the feedback (page 556) are cited in specific sequence and make clear reference to the pertinent portions of the specification that disclose these important functions.

C. Specification Support of the Claims

1. Claim 9

In example #9/#10 of the 1987 patent specification, a viewer watches television programming (a cooking program with a commercial advertising supermarket products) with includes a combined medium presentation. Instructions contained in a control signal are detected and cause the viewer station to compute a shopping list for the viewer by processing a file containing data regarding the size and taste preferences of the viewer's family. The combined medium presentation communicates an offer to the viewer regarding an ingredient of the viewer's shopping list. The viewer responds to the offer and causes the shopping list to be communicated to a remote computer of the supermarket by telephone.

Claim 9 finds support at pages 469-516 of the specification.

Claim Language	Spec. Reference	Specification Language
A method of communicating subscriber station information	Page 511 lines 3-9.	Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.
from a subscriber station	Page 469 lines 7-10.	...the station of Fig. 7 and 7F, is preprogrammed to receive and process automatically meal recipe instructions and holds records of the size of the family of the subscriber of said station
to one or more remote stations, said method comprising the steps of:	Page 511 line 5.	...a remote station....
(1) storing first data which are subscriber data at said	Page 469 lines 7-17.	The microcomputer, 205, of the station of Fig. 7 and 7F, is preprogrammed to receive and process automatically meal recipe

subscriber station;		instructions and holds records of the size of the family of the subscriber of said station together with the tastes and dietary habits of the members of said family. For example, particular information is recorded in a file named DATA_OF.URS that is on a so-called "floppy disk" that is loaded at the A: disk drive at said microcomputer, 205. Said information specifies that said family prefers particular very hot and spicy foods, prefers to minimize salt consumption, and consists of four adults.
(2) receiving and detecting at said subscriber station, in an information transmission received from said one or more remote stations,	Page 473 lines 3-15.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of an "01" header, particular execution segment information that is identical to said covert control information, appropriate meter-monitor information including unit code identification information that identifies the programming of the information segment of said message, padding bits as required, information segment of particular generate-recipe-and-shopping-list instructions, and an end of file signal. At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145,....
	Page 484 lines 1-6.	Then said studio transmits said transmit-and-execute-program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific program-instruction-set message (#10), as described above.
	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
one or more instruct signals which operate	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that

to cause		originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Page 473 lines 29 to page 474 line 17..	Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and- shopping-list instructions at microcomputer, 20...
	Page 507 lines 22-33.	Then said program originating studio embeds and transmits said 6th commence-outputting message (#10). Said message is identical to the 4th commence-outputting message (#10) except for different overlay number field information. In the same fashion that applied to receiving the 4th commence-outputting message (#10), receiving the 6th commence-outputting message (#10) causes apparatus at each subscriber station that has completed the generation of second audio image information to combine its specific audio information to the transmitted audio and to emit sound of its combined audio.
at least a portion	Page 507 line 33 to page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "**low-salt Vindaloo**".
of a combined medium presentation to be outputted at an output device of said subscriber station;	Page 2 lines 8-19.	Today great potential exists for combining the capacity of broadcast communications media to convey ideas with the capacity of computers to process and output user specific information. One such combination would provide a new radio-based or broadcast print medium with the capacity for conveying general information to large audiences--e.g., "Stock prices rose today in heavy trading,"--with information of specific relevance to each particular user in the audience--e.g., "but the value of your stock portfolio went down." (Hereinafter, the new media that result from such combinations are called "combined" media.) Unlocking this potential is desirable because these new media will add substantial richness and variety to the communication of ideas, information and entertainment.
	Page 507 lines 12-21.	Said studio then transmits audio information

		of the announcer saying, "your Super Discount manager will see that all the ingredients that you need for your personal 'Exotic Meals of India' fish curry recipe are delivered to you in time for dinner tomorrow. **And as a special inducement to enter "TV568*" on your Widget Signal Generator and Local Input now, your manager promises to include one jar of Patak's"**
	Page 507 line 33 to page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "**low-salt Vindaloo**".
	Page 508 lines 19-27.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "**Curry Paste. Do it now! Enter 'TV568*'** on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
(3) computing **second data**	Page 474 lines 2-6,	Executing said generate-recipe-and-shopping-list instructions causes microcomputer, 205, to **generate** information of **the** specific fish curry recipe and fish curry **shopping list** of the family of the subscriber of the station of Figs. 7 and 7F
	and lines 14-15.	one ingredient of the recipe of said family is "Patak's low- salt Vindaloo Curry Paste"
at said subscriber station by processing at least one of said first data in accordance with said one or more instruct signals;	Page 474 lines 8-32.	Automatically, microcomputer, 205, **accesses its A:DATA_OF.URS file**, in a fashion well known in the art, **and selects** the aforementioned information that specifies the size of the family of the subscriber of said station together with the tastes and dietary habits of the members of said family; **determines** that one ingredient of the recipe of said family is "Patak's low- salt Vindaloo Curry Paste" (because said family prefers particular very hot and spicy foods and prefers to minimize salt consumption); **computes** that, at one-half pound of halibut fish and one teaspoonful of said Vindaloo Paste per adult, the recipe of said family (which is of four adults) calls for two pounds of halibut and four teaspoonfuls of said Paste and that the shopping list of said family lists

		two pounds of halibut and one jar of "Patak's low-salt Vindaloo Curry Paste"; incorporates information of said two pounds and four teaspoonfuls of "Patak's low-salt Vindaloo Curry Paste" into generally applicable information of the recipe of said "Exotic Meals of India" programming and information of said two pounds and one jar of "Patak's low-salt Vindaloo Curry Paste" into generally applicable information of the shopping list of said programming, **thereby generating** (through the processes of so determining, computing, and incorporating) output information of **the specific recipe and shopping list of said family.**
(4) inputting a **subscriber response** to said outputted combined medium presentation,	Page 508 line 29-30.	At the station of Figs. 7 and 7F, the subscriber **enters TV568*** at the keyboard of local input, 225...
wherein said outputted combined medium presentation includes (i) one of an image and a sound received at said subscriber station from a remote transmitter station and (ii) a portion of said second data; and	Page 505 lines 25-30.	studio transmits audio information of the announcer saying: "Curry Paste. Your local Super Discount Supermarket has a complete line of Patak's Curry Paste products in stock. Call the telephone number," Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M. Said studio then transmits audio information of the announcer saying, "that you see on your screen to have your order delivered to your door. Or if you enter on your Widget Signal Generator and Local Input the information that you see here on your screen," Said studio transmits video information of said person pointing to the upper left hand corner of the video screen, and the image of "TV568*" appears in said corner. Thus each viewer--including the subscriber of the station of Figs. 7 and 7F, said second subscriber, and said third subscriber-- can see TV568* in the upper left hand corner of the picture on the monitor, 202M, of his station. Said studio then transmits audio
	Page 506 lines 17-21.	
	Page 506 line 32 through page 507 line 21.	

		information of the announcer saying, "your Super Discount manager will see that all the ingredients that you need for your personal 'Exotic Meals of India' fish curry recipe are delivered to you in time for dinner tomorrow. And as a special inducement to enter 'TV568*' on your Widget Signal Generator and Local Input now, your manager promises to include one jar of Patak's"
	Page 507 line 33 through page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "low-salt Vindaloo".
	Page 508 lines 19-27.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "Curry Paste. Do it now! Enter TV568* on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
(5) transferring **one datum of said first data and said second data** from said subscriber station to said one or more remote stations based on said subscriber response.	Page 510 line 26 to page 511 line 9.	Receiving said call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700 causes controller, 20, in the fashion described above, to cause auto dialer, 24, to dial the telephone number, 1-(800) 247-8700. Automatically, in the fashion described above, controller, 20, establishes telephone communications with a computer of said super market chain at a remote station. Then said call-this-number-and- respond-with-"A:SHOPPING.EXE" instructions cause controller, 20, to cause the instruction "A:SHOPPING.EXE" to be entered to microcomputer, 205. Entering said instruction causes microcomputer, 205, to execute the instructions of said file, "SHOPPING.EXE" as a machine language job. Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the **street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS)** and complete information of the aforementioned file, A:SHOPPING.LST, **which is the shopping list of the subscriber of said station.**

2. Claim 10

Claim Language	Spec. Reference	Specification Language
The method of claim 9, wherein said detected one or more instruct signals include at least some part of a software module and a data module, said method further comprising the steps of:	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
	Page 483 lines 2-13.	At the station of Figs. 7 and 7F, receiving the data-module-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which includes complete information of the aforementioned data file, DATA_OF.ITS, of said station). Executing said information causes microcomputer, 205, to place said complete information at a so-called "D:" RAM disk at the RAM of said microcomputer, 205, in a file entitled, at the directory of said disk, "DATA_OF.ITS". At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
	Page 16 lines 21-22.	Flexibility must exist for expanding the capacity of installed systems by means of transmitted software....
receiving and storing said one or more of a software module and a data module; and subsequently	Page 484 lines 12-18, and page 483 lines 2-13.	*See above.*
presenting a combined	Page 491 lines 10-16.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "$1,071.32" with its received conventional video information.

		And automatically $1,071.32 is displayed at the upper left hand corner of the picture screen of monitor, 202M, which is the corner to which the image of the person shown at said screen is pointing.
or sequential output of mass medium programming	Page 507 lines 12-21.	Said studio then transmits audio information of the announcer saying, "your Super Discount manager will see that all the ingredients that you need for your personal 'Exotic Meals of India' fish curry recipe are delivered to you in time for dinner tomorrow. And as a special inducement to enter "TV568*" on your Widget Signal Generator and Local Input now, your manager promises to include one jar of Patak's"
	Page 507 line 33 to page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "low-salt Vindaloo".
	Page 508 lines 19-27.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "Curry Paste. Do it now! Enter 'TV568*' on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
and one or more data contained in or generated in accordance with said one or more of a software module and a data module.	Page 486 lines 16-27.	...computes the value of Y that is specific the the station of Figs. 7 and 7F to be: 1071.32 (rounded in a fashion well known in the art); and stores 1071.32 information at particular 2nd working memory of said microcomputer, 205. Automatically, microcomputer, 205, clears video RAM; causes the background color of video RAM to be a color such as black that is transparent when combined with transmitted video by the PC-MicroKey System; causes binary image information of "$1,071.32" to be placed at bit locations of video RAM that produce video image information in the upper left hand of a video screen when video RAM information is transmitted to said screen.
	Page 493 line 33 to page 494 line 8.	At the station of Figs. 7 and 7F, microcomputer, 205, clears its audio RAM then determines, in the predetermined

		fashion of said program instruction set of Q.1, that the shopping list information at particular shopping- list memory at said station includes information of Patak's low-salt Vindaloo Curry Paste. So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an announcer's voice saying "low-salt Vindaloo" from among the information of its D:DATA_OF.ITS file and to place said selected information at said audio RAM.

3. Claim 11

Claim Language	Spec. Reference	Specification Language
The method of claim 10, further having at least one step from the group consisting of:		
identifying a portion of said information transmission containing at least one of said one or more of a software module and a data module and said one or more instruct signals;	Page 481 lines 6-12.	...to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. In so doing, receiving said message causes decoder apparatus of the station of Figs. 7 and 7F to commence executing controlled functions in response to SPAM messages transmitted by said program originating studio.
	Page 482 line 32.	Receiving the specific data-module-set message (#10) of its intermediate transmission station...
	Page 484 lines 7-8.	Receiving the specific program-instruction-set message (#10) of its intermediate transmission station
initiating communications with at least one of said one or more remote stations in accordance with said one or more of a software module and a data module; and	Page 510 lines 15-30.	Receiving said information causes microcomputer, 205, under control of said program instruction set of Q.1, to access said D:DATA_OF.ITS file; to select information from said file of the aforementioned local-automatic-order-taking telephone number of the supermarket chain applicable in the vicinity of the intermediate transmission station of Fig. 6 which is 1-(800) 247-8700; to transmit to controller, 20, particular call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of

		1-(800) 247-8700; and to record particular instructions at the recording medium of the disk at the A: disk drive of microcomputer, 205, in a file named "SHOPPING.EXE". Receiving said call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700 causes controller, 20, in the fashion described above, to cause auto dialer, 24, to dial the telephone number, 1-(800) 247-8700.
performing at least some of said step of transferring said one or more second subscriber specific data in accordance with said software module.	Page 509 line 35 to line 510 line 4.	Subsequently, so continuing executing instructions of its specific **program instruction set of Q.1** ... causes apparatus at each subscriber station where where TV568* has been inputted to a local input, 225, automatically to telephone a shopping list order.

4. Claim 12

Claim Language	Spec. Reference	Specification Language
The method of claim 9, wherein said combined medium presentation displays a combined	Page 491 lines 10-23.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "$1,071.32" with its received conventional video information. And automatically $1,071.32 is displayed at the upper left hand corner of the picture screen of monitor, 202M, which is the corner to which the image of the person shown at said screen is pointing. (Simultaneously and in the same fashion, apparatus at the station of said second subscriber causes the specific video RAM image information of said station, which is "$1,080.64", to be displayed at the upper left hand corner of the picture screen of the monitor, 202M, of said station and said subscriber can see the image said person pointing at $1,080.64.
or sequential output of video and a receiver specific datum,	Page 490 lines 15-22.	"For a limited time only, Super Discount Supermarkets make this special offer to you. Super Discount Supermarkets will deliver to you, at cost, all the pork you need to entertain five hundred people for this low, low price ___". Said studio transmits television picture information of the right hand and arm of said person pointing moving to point at the upper left hand

		corner of the television screen.
	Page 490 lines 20-22.	Said studio transmits television picture information of the right hand and arm of said person pointing moving to point at the upper left hand corner of the television screen.
said method further comprising the step of receiving said video from said one or more remote stations.	Page 470 lines 9-13.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is retransmitted by the intermediate station of Fig. 6;...

5. Claim 13

Claim Language	Spec. Reference	Specification Language
The method of claim 9, wherein said combined medium presentation displays	Page 491 lines 10-23;	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "$1,071.32" with its received conventional video information. And automatically $1,071.32 is displayed at the upper left hand corner of the picture screen of monitor, 202M, which is the corner to which the image of the person shown at said screen is pointing. (Simultaneously and in the same fashion, apparatus at the station of said second subscriber causes the specific video RAM image information of said station, which is "$1,080.64", to be displayed at the upper left hand corner of the picture screen of the monitor, 202M, of said station and said subscriber can see the image said person pointing at $1,080.64.
a combined	lines 30-35.	Said studio then transmits audio information of the announcer saying: "Super Discount Supermarkets makes this offer--today only--at cost, and this offer represents a saving to you of over."
or sequential output of a graphic and a receiver specific datum, said method further comprising the step of	Page 492 line 23 to page 493 line 5.	Automatically, microcomputer, 205, transmits to monitor, 202M, via audio information transmission means, one instance of the information at the audio RAM of said microcomputer, 205, causing the emission of sound of said audio information, and the subscriber of said station can hear said announcer's voice

		saying: "forty-six". (Simultaneously, the microcomputer, 205, at the station of said second subscriber transmits to the monitor, 202M, of said station, via audio information transmission means, one instance of the information at the audio RAM of said microcomputer, 205, causing emission of sound of said audio information, and said second subscriber can hear said announcer's voice saying: "forty-five".
receiving said graphic from said one or more remote stations.	Page 493 lines 16-21.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "percent."
	Page 499 line 31 to page 500 line 4.	At the station of Figs. 7 and 7F, decoder, 203, detects the information of said message, and receiving said 1st cease-outputting message (#10) causes decoder, 203, to execute "GRAPHICS OFF" at the PC-MicroKey System of microcomputer, 205. In so doing, decoder, 203, causes said PC-MicroKey to cease combining its specific image information with the conventional video information transmitted by said studio, to commence transmitting only the transmitted video information to monitor, 202M.

6. Claim 14

Claim Language	Spec. Reference	Specification Language
The method of claim 9, wherein said combined medium presentation displays	Page 491 lines 10-23;	*See specification support for claim 13.*
a combined	lines 30-35.	*See specification support for claim 13.*
or sequential output of video or a graphic and a receiver specific datum, said method further comprising the steps of:	Page 492 line 23 to page 493 line 5.	*See specification support for claim 13.*

receiving audio from said one or more remote stations;	Page 482 lines 32-34. Page 489 lines 30-33.	Receiving the specific data-module-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the DATA_OF.ITS information.... ...selects the audio information of an announcer's voice saying "forty-three" from its file, D:DATA_OF.ITS; and places said information at said audio RAM.) As each subscriber station microcomputer, 205,....
outputting said audio as part of or to supplement said combined medium presentation.	Page 492 lines 23-30.	Automatically, microcomputer, 205, transmits to monitor, 202M, via audio information transmission means, one instance of the information at the audio RAM of said microcomputer, 205, causing the emission of sound of said audio information, and the subscriber of said station can hear said announcer's voice saying: "forty-six".

7. Claim 15

Claim Language	Spec. Reference	Specification Language
The method of claim 14, wherein said audio is received in a television signal, said method further having at least one step from the group consisting of:	Page 470 lines 14-21.	...to interconnect in such a way that the audio information received at a tuner, 215, and the video information received at said tuner, 215, are inputted separately, via matrix switch, 258, to monitor, 202M; ... and to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
detecting said one or more instruct signals in said television signal or	Page 473 lines 14-15. Page 478 lines 23-26. Page 480 lines 26-30.	At the station of Figs. 7 and 7F, said message is detected at TV signal decoder, 145, Then said studio ceases transmitting "Exotic Meals of India" programming for a so-called "commercial break" and commences transmitting the conventional television video and audio information of program unit Q. After an interval that is sufficient to allow apparatus at each subscriber station so to combine and interconnect, said studio transmits said synch-SPAM-reception message (#10), embedded in the transmission of said programming.

	Page 481 lines 2-12.	Receiving said message at the station of Figs. 7 and 7F causes decoder, 203, to detect the end of file signal of said message and to process the next received SPAM information as information of the header of a SPAM message, thereby causing said decoder, 203, to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. In so doing, receiving said message causes decoder apparatus of the station of Figs. 7 and 7F to commence executing controlled functions in response to SPAM messages transmitted by said program originating studio.
	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
in an information transmission containing said television signal;	Page 470 lines 3-6;	Said transmission is received at the intermediate transmission station of Fig. 6 and retransmitted immediately on the cable channel of modulator, 83.
	with page 325 lines 1-4.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
detecting in said television signal or in an information transmission containing said television signal,	Page 325 lines 1-4.	apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Page 484 lines 1-6.	Then said studio transmits said transmit-and-execute-program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission

		station, to transmit its specific program-instruction-set message (#10), as described above.
a software or data module	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the **program instruction set of Q.1** and is the output file, PROGRAM.EXE, of said station).
	Page 483 lines 2-13.	At the station of Figs. 7 and 7F, receiving the data-module-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which includes complete information of the aforementioned data file, DATA_OF.ITS, of said station). Executing said information causes microcomputer, 205, to place said complete information at a so-called "D:" RAM disk at the RAM of said microcomputer, 205, in a file entitled, at the directory of said disk, "DATA_OF.ITS".
which operates to generate at least some of said combined medium presentation or serves as a basis for selecting video, audio, or text to output in	Page 485 lines 14-18.	Under control of the instructions of said **program instruction set of Q.1**, the microcomputer, 205, of Figs. 7 and 7F generates image information of a first video overlay and generates selected information of subsequent overlays in the following fashion.
	Page 486 lines 16-27.	computes the value of Y that is specific the the station of Figs. 7 and 7F to be: 1071.32 (rounded in a fashion well known in the art); and stores 1071.32 information at particular 2nd working memory of said microcomputer, 205. Automatically, microcomputer, 205, clears video RAM; causes the background color of video RAM to be a color such as black that is transparent when combined with transmitted video by the PC-MicroKey System; causes binary image information of "$1,071.32" to be placed at bit locations of video RAM that produce video image information in the upper left

		hand of a video screen when video RAM information is transmitted to said screen.
	Page 488 lines 21-27.	...microcomputer, 205, computes information of .4609 (rounded), which is the decimal equivalent of the percentage saving; determines that said information is greater than .4600 and less than .4700; and selects the audio information of an announcer's voice saying "forty-six" from among the information of said file, D:DATA_OF.ITS; and places said information at audio RAM.
	Page 501 lines 10-25.	So determining causes microcomputer, 205, to place "0" at particular Flag-interrupt register memory of said CPU that is normally "1" then to jump to a particular first-clear-and-continue address of the instructions of said program instruction set of Q.1 and to commence executing first-clear-and-continue instructions at said address. Automatically, under control of said instructions, microcomputer, 205, clears video RAM; sets the background color of video RAM to a transparent overlay black; determines that the aforementioned 1st working memory of said microcomputer, 205, holds southwest-quadrant information; selects from said D:DATA_OF.ITS file information of the aforementioned southwest delivery route telephone number, "456-1414", and causes binary image information of said number to be placed at bit locations that produce video image information in the lower middle portion of a video screen.
	Page 16 lines 21-22.	Flexibility must exist for expanding the capacity of installed systems by means of transmitted software....
said combined medium presentation;	Page 491 lines 10-16;	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "$1,071.32" with its received conventional video information. And automatically $1,071.32 is displayed at the upper left hand corner of the picture screen of monitor, 202M, which is the corner to which the image of the person shown at said screen is pointing.
	and lines 30-35.	Said studio then transmits audio information of the announcer saying: "Super Discount

		Supermarkets makes this offer--today only--at cost, and this offer represents a saving to you of over."
	Page 492 lines 27-30.	and the subscriber of said station can hear said announcer's voice saying: "forty-six".
	Page 493 lines 16-21.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "percent."
	Page 506 lines 17-21.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
detecting in said television signal or in an information transmission containing said television signal a second instruct signal which operates to initiate communications with at least one of said one or more remote stations; and	Page 481 lines 2-12.	Receiving said message at the station of Figs. 7 and 7F causes decoder, 203, to detect the end of file signal of said message and to process the next received SPAM information as information of the header of a SPAM message, thereby causing said decoder, 203, to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. In so doing, receiving said message causes decoder apparatus of the station of Figs. 7 and 7F to commence executing controlled functions in response to SPAM messages transmitted by said program originating studio.
	Page 483 lines 2-13.	At the station of Figs. 7 and 7F, receiving the data-module-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which includes complete information of the aforementioned data file, DATA_OF.ITS, of said station). Executing said information causes microcomputer, 205, to place said complete information at a so-called "D:" RAM disk at the RAM of said microcomputer, 205, in a file entitled, at the directory of said disk, "DATA_OF.ITS".

	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
	Page 510 lines 15-30.	Receiving said information causes microcomputer, 205, under control of said program instruction set of Q.1, to access said D:DATA_OF.ITS file; to select information from said file of the aforementioned local-automatic-order-taking telephone number of the supermarket chain applicable in the vicinity of the intermediate transmission station of Fig. 6 which is 1-(800) 247-8700; to transmit to controller, 20, particular call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700; and to record particular instructions at the recording medium of the disk at the A: disk drive of microcomputer, 205, in a file named "SHOPPING.EXE". Receiving said call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700 causes controller, 20, in the fashion described above, to cause auto dialer, 24, to dial the telephone number, 1-(800) 247-8700.
selecting said television signal from a **multichannel broadcast or cablecast information transmission.**	Page 470 lines 9-21.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the particular transmission of said program that is retransmitted by the intermediate station of Fig. 6; to interconnect in such a way that the audio information received at a tuner, 215, and the video information received at said tuner, 215, are inputted separately, via matrix switch, 258, to monitor, 202M; to retain and process meter and monitor information of the use and usage of the information of said transmission, and to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
	Page 324 lines 7-21	AUTOMATING INTERMEDIATE

		TRANSMISSION STATIONS The signal processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Page 538 line 31 to page 539 line 19.	Automatically each ultimate receiver station that is equipped with a satellite earth station, 250, commences transferring received information of said master transmission, via its matrix switch, 258, to its divider, 4, (thereby inputting said received information to its computer, 205, and its decoder, 203) and commences transferring the television output information of its microcomputer, 205, to its television monitor, 202M, thereby causing display and emission of the television images and sound of said output information. Automatically each receiver station that is not equipped with a satellite earth station tunes its tuner, 215, to receive the specific master channel transmission of its specific selected local intermediate transmission station (which retransmits the master transmission of said European European master network station on its master channel transmission) and commences transferring received information of said master channel transmission, via its matrix switch, 258, to its divider, 4, (thereby inputting said received information to its computer, 205, and its decoder, 203) and commences transferring the television output information of its microcomputer, 205, to its television monitor, 202M, thereby causing display and emission of the television images and sound of said output information.

8. Claim 16

Claim 16 is directed to the operation of a transmitter station which transmits the control signal to the viewer station of claim 9. The transmitter station receives an information transmission (e.g., a television signal) which contains the television programming. It generates the control signal containing the instructions which cause the viewer station to function in the manner of claim 9. It transmits the information transmission and the control signal to the viewer station.

With regard to the functioning of the transmitter station, support for claim 16 is found at pages 374-390 of the specification. With regard to the functionality of the receiver station, support is found at pages 468-516. (As explained above in section A the correspondence between these two passages is clear through the use of a narrative sequence in each passage which uses carefully defined message names and processing functions associated with more than thirteen messages.) Claim 16 is also independently supported at pages 354-374 although not shown in the table below.

Claim Language	Spec. Reference	Specification Language
A method of communicating **subscriber station information**	Page 511 lines 3-9.	Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.
from **a subscriber station**	Page 469 lines 7-10.	The microcomputer, 205, of the station of Fig. 7 and 7F, is preprogrammed to receive and process automatically meal recipe instructions and holds records of the size of the family of the subscriber of said station together with the tastes and dietary habits of the members of said family.

to one or more remote stations, comprising the steps of:	Page 511 line 5.	...to said computer at a remote station....
receiving an information transmission	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
at a transmission station;	Page 375 lines 3-4.	The station of Fig. 6 is one intermediate transmission station controlled by said studio.
generating one or more instruct signals at said transmission station,	Page 379 lines 17-31.	...to select, compute, and replace other variable information until complete program instruction set information exists in higher language code at particular memory; to compile said higher language information; to link the information so complied with other compiled information; and to record the information so computed, compiled, and linked (which is complete information the program instruction set of Q of the station of Fig. 6) in a file named "PROGRAM.EXE", in a fashion well known in the art, on a computer memory disk of computer, 73. In so doing, said computer, 73, generates the specific program instruction set version--that is, the program instruction set of Q.1--that applies to the particular discounts and specials in effect at the particular markets in the vicinity of said station and at the particular time of the network transmission of Q.
	Page 24 lines 14-16.	(Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
	Page 383 lines 25-34.	Receiving said transmit-data- module-set message (#10) causes each of said computers, 73, to cause stripping and embedding to commence; to generate a particular first outbound SPAM message that includes information of the data file, DATA_OF.ITS, at its data-set- to-transmit RAM memory; and to cause said message to be transmitted to its field distribution system, 93. and to cause said message to be transmitted to its field distribution system, 93. (Hereinafter, the first outbound SPAM message of any given one of said computers, 73, is called a "data-module-set message (#10)"...
	Page 385 line 24 to	Then, automatically, each of said computers,

	page 386 line 3.	73, selects and transmits to the generator, 82, of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular program- instruction-set message (#10) of said computer, 73. (Receiving said message causes the apparatus of the intermediate station of Fig. 6 to transmit the program instruction set of Q.1 in the program-instruction-set message (#10) of said station....
said one or more instruct signals effective to cause said subscriber station	Page 482 lines 27-31.	Then said studio transmits said transmit-data-module- set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific data-module-set message (#10), as described above.
	Page 483 lines 2-13.	At the station of Figs. 7 and 7F, receiving the data-module-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which includes complete information of the aforementioned data file, DATA_OF.ITS, of said station). Executing said information causes microcomputer, 205, to place said complete information at a so-called "D:" RAM disk at the RAM of said microcomputer, 205, in a file entitled, at the directory of said disk, "DATA_OF.ITS".
	Page 484 lines 1-6.	Then said studio transmits said transmit-and-execute-program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific

		program-instruction-set message (#10), as described above.
to generate **one or more subscriber specific data in** accordance with said one or more instruct signals	Page 510 line 15-17.	Receiving said information causes microcomputer, 205, under control of said program instruction set of Q.1, to access said D:DATA_OF.ITS file;...
	Page 511 line 9.	...A:SHOPPING.LST, which is the shopping list of the subscriber of said station.
and transfer said one or more subscriber specific data to said one or more remote stations	Page 511 lines 4-9.	Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.
based on a **subscriber response**	Page 508 lines 29-30.	At the station of Figs. 7 and 7F, the subscriber enters TV568* at the keyboard of local input, 225,....
	Page 509 line 35 to page 510 line 4.	Subsequently, so continuing executing instructions of its specific program instruction set of Q.1 or Q.2 causes apparatus at each subscriber station where where TV568* has been inputted to a local input, 225, automatically to telephone a shopping list order.
to a **combined medium presentation output** at an output device at said subscriber station,	Page 507 lines 12-21.	Said studio then transmits audio information of the announcer saying, "your Super Discount manager will see that all the ingredients that you need for your personal 'Exotic Meals of India' fish curry recipe are delivered to you in time for dinner tomorrow. And as a special inducement to enter "TV568*" on your Widget Signal Generator and Local Input now, your manager promises to include one jar of Patak's".
	Page 507 line 33 to page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "low-salt Vindaloo".
	Page 508 lines 19-27.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio

		transmits audio information of the announcer saying: "Curry Paste. Do it now! Enter 'TV568*' on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
said combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more instruct signals; and	Page 505 lines 25-30.	studio transmits audio information of the announcer saying: "Curry Paste. Your local Super Discount Supermarket has a complete line of Patak's Curry Paste products in stock. Call the telephone number,"
	Page 506 lines 17-21.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
	Page 506 line 32 through page 507 line 21.	Said studio then transmits audio information of the announcer saying, "that you see on your screen to have your order delivered to your door. Or if you enter on your Widget Signal Generator and Local Input the information that you see here on your screen," Said studio transmits video information of said person pointing to the upper left hand corner of the video screen, and the image of "TV568*" appears in said corner. Thus each viewer–including the subscriber of the station of Figs. 7 and 7F, said second subscriber, and said third subscriber– can see TV568* in the upper left hand corner of the picture on the monitor, 202M, of his station. Said studio then transmits audio information of the announcer saying, "your Super Discount manager will see that all the ingredients that you need for your personal 'Exotic Meals of India' fish curry recipe are delivered to you in time for dinner tomorrow. And as a special inducement to enter "TV568*" on your Widget Signal Generator and Local Input now, your manager promises to include one jar of Patak's"
	Page 507 line 33 through page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying:

		"low-salt Vindaloo".
	Page 508 lines 19-27.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "Curry Paste. Do it now! Enter 'TV568*' on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
transmitting said information transmission and said one or more instruct signals from said transmission station to said subscriber station.	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 384 line 30 to page 385 line 2.	Receiving the information of the particular data- module-set message (#10) of the computer, 73, of its station causes each generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular **data-module-set message (#10)** of said station to said system, 93.
	Page 386 lines 7-14.	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular **program-instruction-set message (#10)** of said station to said system, 93.
	Page 469 line 35 to page 470 line 6.	The program originating studio of a particular network transmits the programming transmission of a particular conventional television program on cooking techniques that is called "Exotic Meals of India." Said transmission is received at the intermediate transmission station of Fig. 6 and retransmitted immediately on the cable channel of modulator, 83.
	Page 482 lines 27-31.	Then said studio transmits said transmit-data-module- set message (#10), causing each intermediate transmission

		station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific data-module-set message (#10), as described above.
	Page 484 lines 1-6.	Then said studio transmits said transmit-and-execute-program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific program-instruction-set message (#10), as described above.

9. Claim 17

Claim 17 is directed to the operation of a satellite uplink (and satellite) which transmit to the transmitter station of claim 16. The uplink receives an information transmission (e.g., a television signal) which contains the television programming to be transmitted from the transmitter station. It receives instructions (e.g., a computer program) addressed to the transmitter station which cause a series of transmitter stations (which are also receiver stations) to generate the control signals of claim 16. It receives instructions addressed to the viewer station (e.g., to cause output of video and audio). It also receives a transmitter control signal (e.g., a series of cueing signals) which controls the series of transmitter stations to transmit control signals and the instructions addressed to the viewer station. The uplink transmits the information transmission (e.g., the television signal), the instructions addressed to the series of transmitter stations (as well as the instructions addressed to the viewer station), and the transmitter control signal (e.g., the cueing signals).

Claim 17 finds support at pages 533-556 of the specification.

Claim Language	Spec. Reference	Specification Language
A method of communicating	Page 555 lines 26-29.	...to transmit the information of his "PLANTING.DAT" file, via telephone

subscriber station information		network in the fashion of example #10, to a computer at a particular remote data collection station.
from a **subscriber** station	Page 534 lines 1-4.	Each farmer has a **subscriber station** that is identical to the station of Fig. 7
to **one or more remote** stations, comprising the steps of:	Page 555 line 28 to page 556 line 11.	...a computer at a particular remote data collection station. Over the course of a particular time such as two days, ... the received data is aggregated, in a fashion well known in the art, at the computer of said European master network origination and control station which allows .... The aggregated data is also distributed automatically to computers at the national and local intermediate transmission stations, enabling ....
receiving, at a **first transmission station,**	Page 536 lines 4-6.	... programming transmitted via satellite by a particular European master network origination and control station....
	Page 536 lines 12-17.	the signal processor of each receiver station in the nations of the European Economic Community - -including each **national** and each local **intermediate transmission station** and each ultimate receiver station of a farmer--commences receiving **information of the particular master transmission** of said European master network station.
an **information transmission** to be transmitted;	Page 536 lines 29-35.	Then the controller, 20, of the signal processor of the signal processor system, 71, of each intermediate transmission station (of Fig. 6) in said nations causes the computer, 73, of said station to cause apparatus of said station also to retransmit information of said master transmission on the frequency of a selected master channel transmission.
receiving a **first instruct signal** which is effective to accomplish one of:	Page 536 lines 4-6.	... programming transmitted via satellite by a particular European master network origination and control station ....
	Page 536 lines 12-17.	At 3:00 AM Greenwich Mean Time on Monday, February 15, 2027, the signal processor of each receiver station in the nations of the European Economic Community--including each national and each local intermediate transmission station and each ultimate receiver station of a farmer--commences receiving information of the particular master transmission of said

		European master network station.
	Page 541 line 29 to page 542 line 2.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level **intermediate generation set.** Receiving said message causes each national intermediate transmission station to input to and **execute** at its computer, 73, the information of said set.
	Page 42 lines 8-11.	(Hereinafter, instances of computer program information that cause intermediate transmission station apparatus to generate program instruction set information and/or command information are called "intermediate generation sets.")
(a) effecting a **second transmission station**	Page 535 lines 18-22.	Each local government has a **local intermediate transmission station** that is identical to the intermediate station of Fig. 6 and that transmits multiplexed output information of several separate television channels via a cable field distribution system.
to generate **one or more second instruct signals,**	Page 545 lines 27-28.	Automatically, each computer, 73, of a local intermediate station incorporates its computed information selectively into selected generally applicable information of said local level intermediate generation set, compiles information, and links information, thereby **generating its specific program instruction set.**
said one or more second instruct signals effective to cause said subscriber station to generate **one or more subscriber specific** data in accordance with said one or more second instruct signals	Page 547 lines 19-26.	In the fashion of example #9, each local intermediate station detects the particular SPAM message of its recorder, 76, at its decoder, 77, and receiving its particular message causes each station to embed and transmit end of file signal information then a particular first SPAM message that is addressed to URS microcomputers, 205, and that contains complete information of its particular program instruction set.
	Page 548 lines 1-6;	Receiving the particular first SPAM message of its local intermediate station causes apparatus of the subscriber station of each farmer to execute the contained program

		instruction set of said message at the microcomputer, 205, of said station and to commence **generating the specific combined medium output information of its subscriber station.**
	and lines 18-22.	So executing a specific contained program instruction set causes each microcomputer, 205, to generate a specific so-called "optimal" solution for its particular farmer's problem of deciding what mix of crops is most profitable to grow on his property, given his resources.
	Page 549 line 33 through page 550 line 2.	... each farmer's microcomputer, 205, under control of the particular program instruction set generated and transmitted by its local intermediate station, computes its particular farmer's "optimal" crop planting plan by making reference to said farmer's specific data ...
	Page 551 lines 11-14	Automatically, under control of its received program instruction set, the microcomputer, 205, of its farmer's station records complete information of said farmer's crop planting plan at its A: disk in a file named PLANTING.DAT.
	Page 554 lines 12-21.	In due course, the instructions of the program instruction set received at each farmer's station cause a particular module, TELEPHON.EXE, to be recorded at a particular disk drive of the microcomputer, 205, of each farmer's station (in the fashion of the file, "SHOPPING.EXE" in example #10) which, when executed, will permit the farmer to modify the information of his specific crop planting plan and associated budget and to transmit the specific information of his plan (as modified if modified) to a particular data collection computer at a remote station.
and **transfer said one** or more subscriber specific data to said one or more remote stations based on **a subscriber response**	Page 555 lines 19-26.	Under control of the instructions of the TELEPHON.EXE module of his station controlling the operation of his signal processor, 200, **each farmer enters information** at his local input, 225, that modifies the information of his file, "PLANTING.DAT," to suit his own wishes and inclinations **then executes** particular information of said TELEPHON.EXE module that causes the instructions of said module to cause his signal processor, 200, to transmit

		the information
to a **combined medium presentation** outputted at an output device at said subscriber station,	Page 555 line 2-17.	Playing each commercial spot causes **the combined medium information** of said spot to display information of a particular commercial product such as a truck or a particular service such as a software package; to access the prerecorded "A:PLANTING.DAT" disk file information of a farmer's crop planting plan; in a fashion well known in the art, to generate cost/benefit financial analysis of the incremental benefit of acquiring and using the displayed product or service (by comparison with the farmer's existing product or service of like kind); and to display (or otherwise output) information of said analysis (if said analysis results in a positive net present benefit). After studying his specific crop planting plan and associated budget projections, his associated sensitivity analyses, and the output information of the selected commercial spots of his station,....
said combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more instruct signals; and	Page 552 lines 14-30.	Receiving the further additional SPAM messages of its local intermediate station causes apparatus at each subscriber station of a farmer to display or otherwise output (or to cease displaying or otherwise outputting) further combined medium programming of said national and local segment of the "Farm Plans of Europe" program. Automatically, in the fashion of example #10, the display and output apparatus of each farmer's station commences displaying and outputting generally applicable television picture image, sound, and print information of a crop planting plan combined periodically with related locally generated specific crop planting plan information of its specific farmer. Automatically, crop and budget information of the aforementioned optimal crop planting plan of each farmer is explained in the outputted the generally applicable programming and is displayed, emitted in sound, and printed at the station of each farmer.
(b) effecting **a receiver station**	Page 534 lines 26-31.	Elsewhere and at the same time, national planners of each member nation of the European Economic Community seek to formulate agricultural policy for the 2027 growing season and to communicate information of that policy to farmers, thereby

		influencing the farmers' decisions regarding which crops to plant. Each nation has a national intermediate transmission station that is identical to the intermediate station of Fig. 6 except that it transmits output information of several individual television channels to receiver stations via a satellite in geosynchronous orbit over Europe rather than via a cable field distribution system.
	Page 324 lines 18-31.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming. The means and methods for transmitting conventional programming are well known in the art. The station receives programming from many sources. Transmissions are received from a satellite by satellite antenna, 50, low noise amplifiers, 51 and 52, and TV receivers, 53, 54, 55, and 56. Microwave transmissions are received by microwave antenna, 57, and television video and audio receivers, 58 and 59. Conventional TV broadcast transmissions are received by antenna, 60, and TV demodulator, 61. Other electronic programming transmissions are received by other programming input means, 62.
to generate one or more second instruct signals,	Page 543 lines 20-29.	In the mean time, executing their inputted information of said national level intermediate generation set causes the computers, 73, of said national intermediate stations each to generate information of a specific local level intermediate generation set in the fashion that receiving the intermediate generation set of Q caused different intermediate stations to compute and incorporate specific formula-and-item-of-this- transmission information into generally applicable information of the program instruction sets of Q.1 and Q.2 in example #10.
	Page 545 lines 3-11.	Receiving the specific SPAM message of its national intermediate station causes the computer, 73, of each local intermediate station to execute the contained local level intermediate generation set of said message and to generate information of a specific program instruction set in the fashion that

		executing the intermediate generation set of Q caused different intermediate stations in example #10 to generate their specific program instruction sets of Q.1 or Q.2.
said one or more second instruct signals effective to cause said subscriber station to generate one or more subscriber specific data in accordance with said one or more second instruct signals	Page 547 lines 19-26. Page 548 lines 1-6, and lines 18-22. Page 549 line 33 through page 550 line 2.	*See above.* *See above.* *See above.* *See above.*
and transfer said one or more subscriber specific data to said one or more remote stations based on a subscriber response	Page 554 lines 12-21. Page 551 lines 11-14. Page 555 lines 19-16.	*See above.* *See above.* *See above.*
to a combined medium presentation outputted at an output device at said subscriber station,	Page 555 lines 2-17.	*See above.*
said combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more instruct signals;	Page 552 lines 14-30.	*See above.*
receiving a transmitter control signal which operates to communicate at least one of	Page 536 lines 4-6. Page 59 lines 29-33. Page 539 line 34 to	... programming transmitted via satellite by a particular European master network origination and control station.... A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. At 3:59:55 PM, GMT, said European master

	page 540 line 13.	network station transmits end of file signal information then invokes broadcast control of each national intermediate transmission station computer, 73, and each ultimate receiver station microcomputer, 205, that receives SPAM information of said master transmission. Automatically said European master network station commences controlling directly the computers, 73, of said national intermediate stations and the microcomputers, 205, of said ultimate receiver stations. And said master station causes each national intermediate station computer, 73, to embed in its particular second television channel transmission and to transmit end of file signal information then to invoke broadcast control of the computers, 73, of its specific local intermediate transmission stations.
	Page 541 line 29 to page 542 line 6.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular national level intermediate generation set. Receiving said message causes each national intermediate transmission station to input to and execute at its computer, 73, the information of said set. (The information of said set and the processing and functioning caused by executing said information are described more fully below.) Said European master network station then transmits a series of SPAM messages....
said first	Page 544 line 23 to page 545 line 2.	After an interval of time that is long enough for each national intermediate generation station to generate its specific local level intermediate generation set, said European master network station embeds and transmits a SPAM message that is addressed to ITS, computers, 73, of intermediate stations that are national stations and that instructs said stations to embed and transmit their specific local intermediate sets. Receiving said message causes the computer, 73, of each national intermediate station to embed in the normal location of its particular second television channel transmission and to transmit a particular SPAM message that
	(first instruct signal)	

		is addressed to ITS computers, 73, and that contains information segment information of its specific local level intermediate generation set.
	Page 544 lines 25-32.	...said European master network station embeds and transmits a SPAM message that is addressed to ITS, computers, 73, of intermediate stations that are national stations and that instructs said stations to embed and transmit their specific local intermediate sets.
	Page 545 line 29 to page 546 line 5.	At 4:29:50 PM, GMT, after an interval of time that is long enough for each local intermediate generation station to generate its specific program instruction set, said European master network station transmits a particular SPAM first- master-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are national stations. Receiving said message causes each national intermediate station to generate and embed in the normal location of its particular second television channel transmission a particular SPAM first-national-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are local stations.
and second instruct signals to a transmitter; and	Page 547 lines 19-26.	In the fashion of example #9, each local intermediate station detects the particular SPAM message of its recorder, 76, at its decoder, 77, and receiving its particular message causes each station to embed and transmit end of file signal information then a particular first SPAM message that is addressed to URS microcomputers, 205, and that contains complete information of its particular program instruction set.
transmitting, from said first transmission station, said information transmission and said first instruct signal, wherein said information transmission and said first instruct signal are transmitted from said first transmission station.	Page 536 lines 4-6. Page 539 line 34 to page 540 line 13.	...programming transmitted via satellite by a particular European master network origination and control station.... At 3:59:55 PM, GMT, said European master network station transmits end of file signal information then invokes broadcast control of each national intermediate transmission station computer, 73, and each ultimate receiver station microcomputer, 205, that receives SPAM information of said master transmission. Automatically said European master network station commences

		controlling directly the computers, 73, of said national intermediate stations and the microcomputers, 205, of said ultimate receiver stations. And said master station causes each national intermediate station computer, 73, to embed in its particular second television channel transmission and to transmit end of file signal information then to invoke broadcast control of the computers, 73, of its specific local intermediate transmission stations.
	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
(i) in response to said transmitter control signal, or	Page 539 line 34 to page 540 line 13.	At 3:59:55 PM, GMT, said European master network station transmits end of file signal information then invokes broadcast control of each national intermediate transmission station computer, 73, and each ultimate receiver station microcomputer, 205, that receives SPAM information of said master transmission. Automatically said European master network station commences controlling directly the computers, 73, of said national intermediate stations and the microcomputers, 205, of said ultimate receiver stations. And said master station causes each national intermediate station computer, 73, to embed in its particular second television channel transmission and to transmit end of file signal information then to invoke broadcast control of the computers, 73, of its specific local intermediate transmission stations.
	Page 544 lines 23 to page 545 line 2.	After an interval of time that is long enough for each national intermediate generation station to generate its specific local level intermediate generation set, said European master network station embeds and transmits a SPAM message that is addressed to ITS, computers, 73, of intermediate stations that are national stations and that instructs said stations to embed and transmit their specific local intermediate sets. Receiving said message causes the computer,

		73, of each national intermediate station to embed in the normal location of its particular second television channel transmission and to transmit a particular SPAM message that is addressed to ITS computers, 73, and that contains information segment information of its specific local level intermediate generation set.
(ii) with said transmitter control signal.	Page 541 lines 29 to page 542 line 4.	Next said European master network station transmits in the full frame video of said master transmission a SPAM message that is addressed to ITS computers, 73, of intermediate stations that are national stations and that contains information segment information of a particular **national level intermediate generation set.** Receiving said message causes each national intermediate transmission station to input to and execute at its computer, 73, the information of said set. (The information of said set and the processing and functioning caused by executing said information are described more fully below.)

10. Claim 18

Claim Language	Spec. Reference	Specification Language
The method of claim 17, wherein one of said second transmission station and said receiver station is **an intermediate transmission station,** said method further comprising the step of	Page 535 lines 18-22.	Each local government has a local intermediate transmission station that is identical to the intermediate station of Fig. 6 and that transmits multiplexed output information of several separate television channels via a cable field distribution system.
transmitting said one or more second instruct signals from said intermediate transmission station based on said transmitter control signal.	Page 545 line 20 to page 546 line 11.	At 4:29:50 PM, GMT, after an interval of time that is long enough for each local intermediate generation station to generate its specific program instruction set, said European master network station transmits a particular SPAM first- master-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are national stations. Receiving said message causes each national intermediate

		station to generate and embed in the normal location of its particular second television channel transmission a particular SPAM first-national-cueing message (#11) that is addressed to ITS computers, 73, of intermediate stations that are local stations. Receiving said message causes each local intermediate station to commence playing prerecorded programming loaded at its recorder, 76, and transmitting said programming to its field distribution system, 93, on the television channel transmission that is the master channel transmission of said intermediate station.

11. Claim 19

Claim Language	Spec. Reference	Specification Language
The method of claim 17, wherein one of said second transmission station and said receiver station is said subscriber station, said method further comprising the step of	Page 534 lines 1-4.	Each farmer has a subscriber station that is identical to the station of Fig. 7 except that each station has two television recorder/players that are recorder/players, 217 and 217A;....
communicating said one or more subscriber specific data to said transmitter in response to said transmitter control signal.	Page 554 lines 12-16.	In due course, the instructions of the program instruction set received at each farmer's station cause a particular module, TELEPHON.EXE, to be recorded at a particular disk drive of the microcomputer, 205, of each farmer's station....
	Page 555 lines 24 to page 556 line 9.	then executes particular information of said TELEPHON.EXE module that causes the instructions of said module to cause his signal processor, 200, to transmit the information of his "PLANTING.DAT" file, via telephone network in the fashion of example #10, to a computer at a particular remote data collection station. Over the course of a particular time such as two days, computers at remote data collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during

		the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said European master network origination and control station which allows planners at said station to modify and refine the variables of the national intermediate generation set of said station, especially the projected market prices at which farmers are projected to be able to sell each alternate crop. The aggregated data is also distributed automatically to computers at the national and local intermediate transmission stations,....
	Page 545 lines 29 to page 546 line 11. Page 547 lines 19-26.	*See above.* In the fashion of example #9, each local intermediate station detects the particular SPAM message of its recorder, 76, at its decoder, 77, and receiving its particular message causes each station to embed and transmit end of file signal information then a particular first SPAM message that is addressed to URS microcomputers, 205, and that contains complete information of its particular program instruction set.

12. Claim 20

Claim Language	Spec. Reference	Specification Language
The method of claim 19, wherein said one or more remote stations include **an aggregation station,** said method further comprising the steps of:	Page 555 line 35 to page 556 line 2.	Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said European master network origination and control station ....
receiving said one or more subscriber specific data at said aggregation station; and	Page 555 lines 24- line 556 line 2.	then executes particular information of said TELEPHON.EXE module that causes the instructions of said module to cause his signal processor, 200, to transmit the information of his "PLANTING.DAT" file, via telephone network in the fashion of example #10, to a computer at a particular remote data collection station. Over the course of a particular time such as two days, computers at remote data

		collection stations receive data automatically from each farmer of said nations which data indicates the specific quantity of each crop that each farmer expects to harvest during the 2027 growing season. Automatically, the received data is aggregated, in a fashion well known in the art, at the computer of said European master network origination and control station....
aggregating said one or more subscriber specific data with information received from other subscriber stations based on said at least one of said first and second instruct signals.	Page 555 lines 24- line 556 line 2.	*See above.*

13. Claim 21

Claim Language	Spec. Reference	Specification Language
The method of claim 16, wherein said information transmission includes a television or multichannel signal	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts **several channels of television programming.**
	Page 325 lines 1-4.	...apparatus that outputs said **transmissions over various channels** to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
containing **a code** portion,	Page 54 lines 2-6.	An information segment can transmit any information that a processor can process. It can transmit **compiled machine language code or assembly language code or higher level language programs**, all of which are well known in the art.
	Page 85 lines 23-29.	In television, the normal transmission location of the preferred embodiment is in the vertical interval of each frame of the television video transmission. Said location begins at the first detectable part of line 20 of the vertical interval and continues to the last

		detectable part of the last line of the vertical interval that is not visible on a normally tuned television set.
said method further comprising the step of embedding at least one of said one or more instruct signals in said code portion.	Page 385 lines 24-34.	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular program- instruction-set message (#10) of said computer, 73.
	Page 386 lines 7-14.	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to **embed said information in the normal transmission location** of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.

14. Claim 22

Claim Language	Spec. Reference	Specification Language
The method of claim 16, further comprising the step of transmitting **a control signal**	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
which operates at said subscriber station to control **a portion receiver**	Page 460 lines 12-19.	Then said studio embeds a SPAM message that contains one instance of said expand-to-full-field-search execution segment information. Receiving said message causes apparatus at each station to cause the line **receiver**, 33, of the decoder, 203, of said station to commence detecting

		digital information in every frame of its received video information from the first detectable portion of line 20 of said frame to the last detectable portion of the last line of said frame.
	Page 462 lines 6-12.	Then said studio embeds a SPAM message that contains one instance of said resume-normal-location-search execution segment information. Receiving said message causes apparatus at each station to cause the line receiver, 33, of the decoder, 203, of said station to commence detecting digital information in just the normal transmission location of every frame of its received video information.
to receive and transfer to a detector	Page 35 lines 6-12.	Path A inputs to a standard line receiver, 33, well known in the art. Said line receiver, 33, receives the information of one or more of the lines normally used to define a television picture. It receives the information only of that portion or portions of the overall video transmission and passes said information to a digital detector, 34,....
an expanded or contracted code portion	Page 459 lines 17-26.	The decoder, 203, of the station of Fig. 7 and 7C (and the decoder, 203, of every other subscriber station tuned to said program) is preprogrammed to respond to SPAM messages containing expand-to-full-field-search execution segment information and resume-normal-location-search information and responsively to alter automatically the portions of its received video information that are searched for embedded digital information. At the start of the conventional television information of said program, said program originating studio embeds a SPAM message that contains the execution segment information....
	Page 458 lines 18-35.	One controlled function that is preprogrammed at the controllers, 39, of the decoders, 203, of subscriber stations and that is caused to be executed by receiving a SPAM message containing expand-to-full-field-search execution segment information is a function whose instructions cause said controller, 39, to cause the line receivers, 33, of said decoders, 203, to

		commence detecting digital information in every frame of its received video information from the first detectable portion of line 20 of said frame to the last detectable portion of the last line of said frame. A second controlled function that is preprogrammed at said controllers, 39, and that is caused to be executed by receiving a SPAM message containing resume- normal-location-search execution segment information is a function whose instructions cause said controller, 39, to cause said line receivers, 33, to commence detecting digital information in the normal transmission location of every frame of its received video information.
	Page 85 lines 23-29.	In television, the normal transmission location of the preferred embodiment is in the vertical interval of each frame of the television video transmission. Said location begins at the first detectable part of line 20 of the vertical interval and continues to the last detectable part of the last line of the vertical interval that is not visible on a normally tuned television set.
of a **television signal or a multichannel broadcast or cablecast signal.**	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that **cablecasts several channels of television programming.**
	Page 325 lines 1-4.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.

15. Claim 23

Claim Language	Spec. Reference	Specification Language
The method of claim 16, wherein **a switch or computer**	Page 324 line 3 to page 325 line 4.	Each receiver/modulator/input apparatus, 53 through 62, transfers its received transmissions into the station by hard-wire to a a conventional **matrix switch, 75,** well known in the art, that outputs to one or more recorder/players, 76 and 78, and/or to

		apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
	Page 328 lines 14-17.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.
at said transmission station communicates said information transmission from one or more of a receiver and a memory	Page 375 lines 3-6.	The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 367 lines 25-27.	Causing recorder, 76, to play causes recorder, 76, to transmit programming of Q, via matrix switch, 75, and modulator, 83, to field distribution system, 93, and also causes recorder, 76, to input the programming of Q to decoder, 77.
to a transmitter, said method further comprising the steps of:	Page 325 lines 1-4.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
detecting a signal	Page 366 lines 29-33,	Transmitting said message causes that decoder of signal processing system, 71, that receives the transmission of said distribution amplifier, 63, to detect said message and input said message, with appropriate source mark information, via code reader, 72, to computer, 73.
	with page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
which operates at said transmission station to	Page 367 lines 2-9.	Receiving said message and mark causes computer, 73, to cause recorder, 76, to

instruct said switch or computer to effect communication;		commence playing and to cause matrix switch, 75, to configure its switches so as to cease transferring programming inputted from distribution amplifier, 63, to modulator, 83, then to commence transferring the output of recorder, 76, to modulator, 83, which causes the transmission of unit Q to field distribution system, 93.
controlling said switch or computer to communicate at least one of said one or more instruct signals to said transmitter; and	Page 367 lines 3-9.	Receiving said message and mark causes computer, 73, to cause recorder, 76, to commence playing and to cause matrix switch, 75, to configure its switches so as to cease transferring programming inputted from distribution amplifier, 63, to modulator, 83, then to commence transferring the output of recorder, 76, to modulator, 83, which causes the transmission of unit Q to field distribution system, 93.
	Page 372 lines 20-26.	Subsequently, as recorder, 76, plays and transmits the programming of Q, via modulator, 83, to field distribution system, 93, recorder, 76, transmits eight SPAM messages that are embedded in the prerecorded programming of Q. (Hereinafter, said messages are called [in the order in which said messages are transmitted], the "1st commence-outputting message (#9)", the "2nd commence-outputting message (#9)",.....
controlling said switch or computer to communicate mass medium programming from one of said receiver and said memory.	Page 344 lines 5-7,	Automatically, at the station of Fig. 6, the computer, 73, causes matrix switch, 75, to configure its switches so as to transfer transmissions from receiver, 53, to a selected primary recorder, 76;
	Page 340 lines 33-34.	Said programming might be, for example, so-called "television spot commercials."
	with page 346 line 34 to page 347 line 5.	Subsequently, receiving the select-Q-message (#8) causes said computer, 73, to determine that the "program unit identification code" information of unit Q matches preprogrammed schedule information which causes said computer, 73, to cause recorder, 76, to commence recording, thereby causing said recorder, 76, to record the programming of program unit Q which follows said select-Q-message (#8).
	Page 367 line 2-9.	Receiving said message and mark causes computer, 73, to cause recorder, 76, to commence playing and to cause matrix

		switch, 75, to configure its switches so as to cease transferring programming inputted from distribution amplifier, 63, to modulator, 83, then to commence transferring the output of recorder, 76, to modulator, 83, which causes the transmission of unit Q to field distribution system, 93.

16. Claim 24

Claim Language	Spec. Reference	Specification Language
The method of claim 16, wherein a **programmable controller**	Page 359 lines 14-20.	Detecting said message causes decoder, 77, to transmit said message to computer, 73, and receiving said message at computer, 73, causes particular SPAM decoder apparatus of computer, 73, (which apparatus is analogous to **SPAM- controller, 205C**, at microcomputer, 205, above and is not distinguished from computer, 73, hereinafter) to execute particular controlled functions.
	Fig. 3, page 156 lines 10-17.	THE PREFERRED CONFIGURATION OF CONTROLLER, 39, AND SPAM-CONTROLLER, 205C. Heretofore, this specification has treated the controller of decoder, 203, (which is controller, 39) and the SPAM input controller of microcomputer, 205, (which is SPAM- controller, 205C) as separate controllers. This treatment has served to show how SPAM messages are transferred from one controller to another, at any given subscriber station.
	Page 157 line 34 to page 158 line 35.	As Fig. 3A shows, each processor, 39B, 39D, and 39J, has associated RAM and ROM and, hence, constitutes a **programmable controller** in its own right. Each processor, 39B, 39D, and 39J, controls its associated buffer, 39A, 39C, and 39E respectively. Each buffer, 39A, 39C, and 39E, is a conventional buffer that receives, buffers, and transfers binary information in fashions well known in the art. Each buffer, 39A and 39C, transfers its received and buffered information to its associated processor, 39B and 39D respectively, for processing. Buffer, 39E, transfers its received and buffered information, via EOFS Valve, 39F, to matrix

		switch, 39I. The preferred embodiment of controller, 39, also has a buffer, 39G, that is a conventional buffer with means for receiving information from other inputs external to decoder, 203. Among said inputs is, in particular, an input from controller, 12, of signal processor, 200 (which input performs the functions of the input from controller, 12, to SPAM-controller, 205C, shown in Fig. 3). Buffer, 39G, outputs its received and buffered information, via EOFS Valve, 39H, to matrix switch, 39I. Buffer, 39G, is configured, in a fashion well known in the art, with capacity to identify to control processor, 39J, which input is the source of any given instance of information received and buffered at buffer, 39G, and capacity to output selectively, under control of control processor, 39J, any given instance of received information. EOFS Valves, 39F and 39H, are EOFS valves of the type described above and transfer the buffered information of buffers, 39E and 39G respectively, to matrix switch, 39I. Said valves operate under control of control processor, 39J, and monitor all information, so transferred, continuously for end of file signals in the fashion described above. Matrix switch, 39I, is a conventional digital matrix switch, well known in the art of telephone communication switching, that is configured for the small number of inputs and outputs required at controller, 39.
controls a switch or computer	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
	Page 328 lines 14-15.	Computer, 73, has means for communicating control information with matrix switch, 75, and video recorders, 76 and 78, and can cause selected programming to be transmitted to field distribution system, 93, or recorded.
to communicate a selected signal	Page 367 lines 2-9.	Receiving said message and mark causes computer, 73, to cause recorder, 76, to commence playing and to cause matrix switch, 75, to configure its switches so as to cease transferring programming inputted from distribution amplifier, 63, to modulator, 83, then to commence transferring the output

		of recorder, 76, to modulator, 83, which causes the transmission of unit Q to field distribution system, 93.
to a transmitter, said method further comprising the step of:	Page 325 lines 1-4.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
detecting a signal which is effective at said transmission station to program said programmable controller.	Page 527 lines 2-4, with page 537 lines 6-13. Page 527 line 31 to page 528 line 3.	Automatically, decoder, 30, detects said message and transfers all information of said message to controller, 12. At 3:10 AM, GMT, said European master network station transmits particular SPAM message information, embedded in the information of said master transmission, including a SPAM end of file signal and the aforementioned sequence of SPAM messages that contain operating system instructions. In so doing, said European master network station inputs operating system instructions to all SPAM apparatus and receiver station computers, 73, and microcomputers, 205, Said information that is inputted to decoder, 203, is the contained SPAM message of said third SPAM message and is a complete SPAM message in its own right. Said contained message consists of a "01" header; execution segment information that is addressed to URS decoders, 203, of the example #3 version and that causes said said decoders, 203, each to invoke its ROM instructions for entering operating system instructions into its RAM;....

17. Claim 25

Claim Language	Spec. Reference	Specification Language
The method of claim 16, wherein said one or more instruct signals comprise downloadable code	Page 484 lines 15-18. Page 54 lines 2-6.	...said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).

		An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.
	Page 364 lines 28-29.	...a complete instance of higher language code of said program instruction set....
targeted to a processor	Page 371 lines 26-27,	information of a particular SPAM execution segment that is addressed to URS microcomputers, 205;
	lines 33-35.	Said selected and transmitted information is complete information of said program-instruction-set message (#9).
at one or more of said plurality of receiver stations, said downloadable code **programming a method**	Page 484 lines 15-18.	*See above.*
in which said processor processes said subscriber response,	Page 509 line 35 to page 510 line 4,	Subsequently, so continuing executing instructions of its specific program instruction set of Q.1 or Q.2 causes apparatus at each subscriber station where where TV568* has been inputted to a local input, 225, automatically to telephone a shopping list order.
	with page 508 lines 21-30.	...said studio transmits audio information of the announcer saying: "Curry Paste. Do it now! Enter 'TV568*' on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen." At the station of Figs. 7 and 7F, the subscriber enters TV568* at the keyboard of local input, 225,....
generates said **one or more subscriber specific data,**	Page 485 lines 14-18.	Under control of the instructions of said program instruction set of Q.1, the microcomputer, 205, of Figs. 7 and 7F generates image information of a first video overlay and generates selected information of subsequent overlays in the following fashion.
or communicates said one or more subscriber	Page 511 lines 3-9.	Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station

specific data to said one or more remote stations.		information of the street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.

18. Claim 26

Claim Language	Spec. Reference	Specification Language
The method of claim 16, further comprising the steps of: receiving **generally applicable information**	Page 356 lines 24-27,	Computer, 73, can receive and be caused to execute intermediate generation set information in any fashion that a computer receives and is caused to execute computer program instructions.
in respect of said combined medium presentation at said transmission station;	with page 357 lines 21-35.	Any given intermediate generation set contains generally applicable information of the particular program instruction set whose generation it causes. Generally applicable information is specific. For example, the **generally applicable** information of the intermediate generation set of the programming of Q includes binary sound image information of a particular announcer's voice saying, **"forty-three", "forty-five", "forty-six", "low-salt Vindaloo", "Mild version Quick", and "Hot version Quick"**. And any given datum of generally applicable information may be specific information only of selected subscriber stations. Yet such information is generally applicable at any given transmission station because any given datum may be applicable at any or all of the subscriber stations of said transmission station.
	Page 507 line 20 to page 508 line 27.	Then said program originating studio embeds and transmits said 6th commence-outputting message (#10). Said message is identical to the 4th commence-outputting message (#10) except for different overlay number field information. In the same fashion that applied to receiving the 4th commence-outputting message (#10), receiving the 6th commence-outputting message (#10) causes apparatus at each subscriber station that has completed the

		generation of second audio image information to combine its specific audio information to the transmitted audio and to emit sound of its combined audio. At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "**low-salt Vindaloo**". (Simultaneously, the monitor, 202M, of the station of said second subscriber emits sound of said announcer's voice saying: "**Mild version Quick**". And at the station of said third subscriber, sound of said announcer's voice saying: "**Hot version Quick**" is emitted at the monitor, 202M.) After causing emission of audio information of the information at audio RAM once, the instructions of said program instruction sets of Q.1 and Q.2 cause a microcomputer, 205, to clear audio RAM then pause. Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "Curry Paste. Do it now! Enter 'TV568*' on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
processing a first portion of said generally applicable information in order to generate or assemble at least some of said one or more instruct signals; and	Page 363 line 34 to page 364 line 15. Page 24 lines 14-21.	Executing the information of said intermediate generation set causes computer, 73, to generate said program instruction set in the following fashion. Automatically, computer, 73, selects information of each of the aforementioned variables, a, p, q, d, Z, r, s, and dd; computes the value of variable b, under control of intermediate generation set instructions of equation (2), to be 62.21875; computes the value of variable c, under control of intermediate generation set instructions of equation (3), to be 2.117; and replaces particular variable values, a, b, and c, in a particular so-called "higher language line of program code" that is among the aforementioned generally applicable information of said program instruction set and is: $Y = a + b + (c * X)$ (Hereinafter, such a set of instructions that is loaded and run is called a "program

		instruction set.") In a fashion well known in the art, microcomputer, 205, loads the received binary information of said set at a designated place in RAM until, in a predetermined fashion, it detects the end of said set, and it executes said set as an assembled, machine language program in a fashion well known in the art.
transmitting a second portion of said generally applicable information to said subscriber station.	Page 369 lines 23-30, with page 494 lines 3-8.	Receiving said transmit-data-module-set message (#9) causes computer, 73, to generate a particular first outbound SPAM message that includes information of the aforementioned data file, DATA_OF.ITS, whose information constitutes a complete instance of a data module set of Q and to cause said message to be embedded in the transmission of the programming of Q and transmitted to field distribution system, 93, in the following fashion. So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an announcer's voice saying "low-salt Vindaloo" from among the information of its D:DATA_OF.ITS file and to place said selected information at said audio RAM.

19. Claim 27

Claim Language	Spec. Reference	Specification Language
The method of claim 16, further comprising the step of transmitting mass medium programming to said subscriber station to serve as a basis for outputting said combined medium presentation.	Page 367 lines 25-27, Page 374 line 33 to page 375 line 6.	Causing recorder, 76, to play causes recorder, 76, to transmit programming of Q, via matrix switch, 75, and modulator, 83, to field distribution system, 93,.... In example #10, a particular program originating studio transmits the commercial of program unit Q in a network transmission and controls a plurality of intermediate transmission stations each of which controls, in turn, a plurality of subscriber stations that are ultimate receiver stations. The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.

	page 324 lines 11-14.	The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming....
	Page 478 lines 23-26.	Then said studio ceases transmitting "Exotic Meals of India" programming for a so-called "commercial break" and commences transmitting the conventional television video and audio information of program unit Q.
	Page 509 lines 31-34.	In due course, said studio ceases transmitting programming of said program unit of Q and recommences transmitting programming of said "Exotic Meals of India" program.

20. Claim 28

Claim Language	Spec. Reference	Specification Language
The method of claim 16, further comprising the steps of: storing **a schedule;** and	Page 326 lines 25-33.	Computer, 73, has capacity for maintaining records on the station's programming schedule and records on the status of operating apparatus. Computer, 73, has means for receiving input information from local input, 74, and from remote stations via telephone or other data transfer network, 98. Such input information can include the complete programming schedule of the station of Fig. 6, with each discrete unit of programming identified by its own "program unit identification code" information.
generating said **one or more instruct signals** in accordance with said schedule.	Page 355 lines 18-26,	Computer, 73, is preprogrammed to process combined medium programming. When the aforementioned remote distribution station inputs information to computer, 73, via network, 98, regarding unit Q, said distribution station inputs information that Q is particular combined medium programming and instructs computer, 73, to commence particular program instruction set generation in a particular fashion at a particular time interval prior to the scheduled playing of Q.
	and page 363 lines 9-	At the aforementioned interval Q time prior

	11.	to the scheduled playing of Q, when computer, 73, commences generating said program instruction set,....

21. Claim 29

Claim Language	Spec. Reference	Specification Language
The method of claim 16, wherein said one or more instruct signals include at least some part of a **software module and a data module**, said method further comprising the steps of:	Page 372 line 4-6. Page 364 line 25 to page 365 line 24.	...thereby transmitting said program-instruction-set message (#9) to said system, 93. Automatically, computer, 73, selects and computes information of other variables and replaces other variable values of said generally applicable program instruction set information until a complete instance of higher language code of said program instruction set with all required formula-and-item-of-this-transmission information has been generated and exists at particular memory. Automatically, computer, 73, compiles the information of said instance and places the resulting so-called "object module" at particular memory (which compiling could be done, in the case of a program written in IBM BASIC, with the IBM BASIC Compiler of the IBM Personal Computer Computer Language Series). Automatically, computer, 73, links the information of said object module with information of other compiled object modules that exist in memory at computer, 73, (and may have been transmitted to computer, 73, in the generally applicable program instruction set information if said intermediate generation set); generates a particular PROGRAM.EXE output file that is said program instruction set; and places said file at particular program-set-to-transmit memory of computer, 73, (which linking could be done, in the case of a program compiled by the IBM BASIC Compiler with the linker program of the IBM Disk Operating System of the IBM Personal Computer Computer Language Series). One of said other compiled object modules is a module that, when accessed in a fashion well known in the art, computes the shortest vehicle driving distance between any two

		locations in the local vicinity of the station of Fig. 6 when passed two street addresses of said vicinity. (Hereinafter, the program instruction set generated in example #9, under control of said intermediate generation set of Q, is called the "program instruction set of Q".) Executing the information of said intermediate generation set causes computer, 73, also to generate a particular associated data module.
	Page 370 lines 14-15.	complete information of said data file, DATA_OF.ITS; and information of a SPAM end of file signal.
	Page 371 lines 30-31.	...complete information of the aforementioned file that is at the aforementioned program- set-to-transmit memory of computer, 73,....
	Page 16 lines 22-25.	Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components.
	Page 369 lines 23-30.	Receiving said transmit-data-module-set message (#9) causes computer, 73, to generate a particular first outbound SPAM message that includes information of the aforementioned data file, DATA_OF.ITS, whose information constitutes a complete instance of a data module set of Q and to cause said message to be embedded in the transmission of the programming of Q and transmitted to field distribution system, 93, in the following fashion.
	Page 371 lines 11-19.	Receiving said transmit-and-execute-program-instruction-set message (#9) causes computer, 73, to generate a second outbound SPAM message that includes information of said program instruction set of Q and to cause said message to be embedded in the transmission of the programming of Q and transmitted to field distribution system, 93, in the following fashion. (Hereinafter, said second outbound SPAM message is called the "program-instruction-set message (#9).")
incorporating into said one or more of a software module and	Page 360 lines 12-17,	(Formula- and-item-of-this-transmission information can be incorporated into more than one module by any given intermediate

a data module data to serve as a basis for outputting said combined medium presentation at said subscriber station;	with page 493 line 33 to page 494 line 8.	generation set.) Said formula-and-item-of-this-transmission information can consist of both computer program instructions and data. At the station of Figs. 7 and 7F, microcomputer, 205, clears its audio RAM then determines, in the predetermined fashion of said program instruction set of Q.1, that the shopping list information at particular shopping- list memory at said station includes information of Patak's low-salt Vindaloo Curry Paste. So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an announcer's voice saying "low-salt Vindaloo" from among the information of its D:DATA_OF.ITS file and to place said selected information at said audio RAM.
and transmitting said one or more of a software module and a data module.	Page 372 lines 4-6. Page 371 lines 30-31. Page 16 lines 22-25. Page 371 lines 2-3. Page 370 lines 14-15.	...thereby transmitting said program-instruction-set message (#9) to said system, 93. ...complete information of the aforementioned file that is at the aforementioned program- set-to-transmit memory of computer, 73, and that is said program instruction set of Q;.... Flexibility must exist for expanding the capacity of installed systems by means of transmitted software and for altering installed systems in a modular fashion by adding or removing components. ...thereby transmitting said data- module-set message (#9) to said system, 93. ...complete information of said data file, DATA_OF.ITS; and information of a SPAM end of file signal.

22. Claim 30

Claim Language	Spec. Reference	Specification Language
The method of claim 29, wherein said data module includes	Page 501 lines 21-25.	selects from said D:DATA_OF.ITS file information of the aforementioned southwest delivery route telephone number,

video or audio.		"456-1414", and causes binary image information of said number to be placed at bit locations that produce video image information in the lower middle portion of a video screen.
	Page 494 lines 3-8.	So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an announcer's voice saying "low-salt Vindaloo" from among the information of its D:DATA_OF.ITS file and to place said selected information at said audio RAM.

23. Claim 31

Claim Language	Spec. Reference	Specification Language
The method of claim 29, further comprising the steps of: storing one or more of (1) **formula or item information** and (2) **an intermediate generation set;**	Page 358 lines 10-21.	When executed at a computer, 73, that is preprogrammed with particular local-formula-and-item information (that is, particular data), the instructions of a given intermediate generation set (that is, of a given computer program) cause said computer, 73, to generate particular formula-and-item- of-this-transmission information and incorporate said information into said generally applicable information of said particular program instruction set, thereby generating the particular program instruction set instance applicable to a particular transmission at a particular intermediate transmission station. The set information so generated may consist of computer program instructions and/or data.
	Page 359 lines 22-23.	In the fashion of the first message of the "Wall Street Week" example at microcomputer, 205, computer, 73, is caused to load information of said intermediate generation set at particular RAM.
and generating at least some of a **program instruction set**	Page 358 lines 17-18.	...thereby generating the particular program instruction set instance applicable to a particular transmission at a particular intermediate transmission station.
and **a command.**	Page 42 lines 8-11.	(Hereinafter, instances of computer program information that cause intermediate transmission station apparatus to generate

		program instruction set information and/or command information are called "intermediate generation sets.")

24. Claim 32

Claim Language	Spec. Reference	Specification Language
The method of claim 29, further comprising the step of incorporating into said one or more of a software module and a data module **an identifier**	Page 360 lines 12-17.	(Formula- and-item-of-this-transmission information can be incorporated into more than one module by any given intermediate generation set.) Said formula-and-item-of-this-transmission information can consist of both computer program instructions and data.
which enables said subscriber station to initiate communications with at least one of said one or more remote stations.	Page 366 lines 4-13.	...binary video image information of several telephone numbers, including a particular southwest delivery route telephone number, "456-1414", and a particular northwest delivery route telephone number, "224-3121"; and information of the particular local-automatic-order-taking telephone number of the supermarket chain applicable in the vicinity of the intermediate transmission station of Fig. 6 which is **1-(800) 247-8700.** Automatically, computer, 73, places said selected information (and any other information so selected) in a particular file called DATA_OF.ITS....
	Page 510 lines 17-30.	...to select information from said file of the aforementioned local-automatic-order-taking telephone number of the supermarket chain applicable in the vicinity of the intermediate transmission station of Fig. 6 which is **1-(800) 247-8700**; to transmit to controller, 20, particular call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700; and to record particular instructions at the recording medium of the disk at the A: disk drive of microcomputer, 205, in a file named "SHOPPING.EXE". Receiving said call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700 causes controller, 20, in the fashion described above, to cause auto dialer, 24, to

		dial the telephone number, 1-(800) 247-8700.
	Page 506 lines 17-21.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
	Page 508 lines 25-27.	"...Input or call the telephone number that you see on your television screen."

25. Claim 33

Claim Language	Spec. Reference	Specification Language
The method of claim 32, wherein said identifier is a **telephone number** and said one or more instruct signals cause said subscriber station to dial said telephone number.	Page 366 line 4-13.	*See above.*
	Page 510 lines 17-30.	*See above.*
	Page 509 line 35 to page 510 line 4.	Subsequently, so continuing executing instructions of its specific program instruction set of Q.1 or Q.2 causes apparatus at each subscriber station where where TV568* has been inputted to a local input, 225, automatically to telephone a shopping list order.

26. Claim 34

In example #9/#10 of the 1987 patent specification (also cited in claim 9), a viewer station receives an information transmission (e.g., a multichannel video signal) with contains information applicable to a general audience. The generally applicable information include a data module (e.g., containing selectable video or audio for output in a combined medium presentation) and a video commercial advertising supermarket products. The information transmission also includes a plurality of combining control signals (e.g., a computer program to control the viewer station to select video or audio from the data module video or audio and command(s) to time the viewer station to output the selected video or audio in the

course of the commercial). A computer at the viewer station stores the data module and combining control signals. The video commercial is outputted at a television monitor. One portion of the combining control signals (e.g., the computer program) selects information that is of specific relevance to a viewer (e.g., information about a desired product or benefit to be obtained). Another portion outputs the selected information at specific times in the commercial when the selected information is relevant (e.g., when a video image in the commercial points to the selected information). The combined medium presentation communicates an offer to the viewer regarding an ingredient of the viewer's shopping list. The viewer responds affirmatively, causing the shopping list to be communicated to a remote computer of the supermarket by telephone.

Claim 34 finds support at pages 469-516 of the specification.

Claim Language	Spec. Reference	Specification Language
A method of communicating **subscriber station information**	Page 511 lines 3-9.	Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.
from a subscriber station	Page 469 lines 7-11.	The microcomputer, 205, of the station of Fig. 7 and 7F, is preprogrammed to receive and process automatically meal recipe instructions and holds records of the size of the family of the subscriber of said station together with the tastes and dietary habits of the members of said family.
to one or more remote stations including:	Page 511 line 5.	...to said computer at a remote station....
receiving one or more information transmissions	Page 470 lines 9-16.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above, apparatus is caused to receive the **particular transmission of said program** that is retransmitted by the intermediate station

		of Fig. 6; to interconnect in such a way that the audio information received at a tuner, 215, and the video information received at said tuner, 215, are inputted separately,
at said subscriber station, said information transmissions including **generally applicable information**	Page 482 line 32 to page 483 line 2.	Receiving the specific data-module-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the **DATA_OF.ITS information** in said message in a particular file, named "DATA_OF.ITS" at so-called "RAM disk" memory of the microcomputer, 205, of said station.
	Page 357 lines 21-35.	Any given intermediate generation set contains **generally applicable information** of the particular program instruction set whose generation it causes. Generally applicable information is specific. For example, the **generally applicable information** of the intermediate generation set of the programming of Q includes binary sound image information of a particular announcer's voice saying, "**forty-three**", "forty-five", "forty-six", "**low-salt Vindaloo**", "Mild version Quick", and "Hot version Quick". And any given datum of generally applicable information may be specific information only of selected subscriber stations. Yet **such information is generally applicable** at any given transmission station **because any given datum may be applicable at any or all of the subscriber stations of said transmission station.**
	Page 494 lines 3-8.	So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an announcer's voice saying "**low-salt Vindaloo**" from among the information of its **D:DATA_OF.ITS** file and to place said selected information at said audio RAM.
	Page 45 lines 25-26.	("ITS" refers, hereinafter, to intermediate transmission station apparatus, and "URS" refers to ultimate receiver station apparatus.)
and **a plurality of combining control signals,**	Page 484 lines 5-18.	Receiving the specific program-instruction-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the PROGRAM.EXE information in said message at particular RAM and

		execute the information so loaded as a machine language job. At the station of Figs. 7 and 7F, receiving the **program-instruction-set message** (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the **program instruction set of Q.1** and is the output file, PROGRAM.EXE, of said station).
	Page 504 lines 28-30.	At the station of Fig. 7 and 7F, decoder, 203, receiving said 4th commence-outputting message (#10) causes decoder, 203, to execute "SOUND ON" at the microcomputer, 205 of said station.
	Page 506 lines 13-17.	At the station of Fig. 7 and 7F, receiving said 5th commence- outputting message (#10) causes decoder, 203, to execute "GRAPHICS ON" at the PC-MicroKey system of microcomputer, 205.
said generally applicable information including (1) some of a user specific combined medium presentation	Page 506 lines 17-26.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically **456-1414** is displayed in the lower middle portion of the picture screen of monitor, 202M. (Simultaneously and in the same fashion, apparatus at the station of said second subscriber causes the specific video RAM image information of said station, which is "**224-3121**", to be displayed in the lower middle portion of the picture screen of the monitor, 202M, of said station.
	Page 501 lines 16-34.	Automatically, under control of said instructions, microcomputer, 205, clears video RAM; sets the background color of video RAM to a transparent overlay black; determines that the aforementioned 1st working memory of said microcomputer, 205, holds southwest-quadrant information; selects from said D:DATA_OF.ITS file information of the aforementioned **southwest delivery route telephone number, "456-1414"**, and causes binary image information of said number to be placed at bit locations that produce video

		image information in the lower middle portion of a video screen. (Under control of the first-clear-and-continue instructions of its station's program instruction set of Q.1, the microcomputer, 205, of the station of said second subscriber clears video RAM; sets background to transparent black; determines that the 1st working memory of said microcomputer, 205, holds northwest-quadrant information; and causes binary information of the selected northwest delivery route telephone number, "224-3121", to be placed at particular lower middle video screen bit locations.
and (2) video to serve as a basis on which to present said some of a user specific combined medium presentation,	Page 506 line 19.	...conventional video information....
at least said plurality of combining control signals being received from said one or more remote stations;	Page 484 lines 1-7.	Then said studio transmits said transmit-and-execute-program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific program-instruction-set message (#10), as described above.
	Page 504 lines 12-13..	Then said program originating studio embeds and transmits said 4th commence-outputting message (#10).
	Page 505 lines 32-33..	At this moment, said program originating studio embeds and transmits said 5th commence-outputting message (#10).
storing a portion of said generally applicable information and said plurality of combining control signals at said subscriber station;	Page 482 line 32 to page 483 line 2.	Receiving the specific data-module-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the DATA_OF.ITS information in said message in a particular file, named "DATA_OF.ITS" at so-called "RAM disk" memory of the microcomputer, 205, of said station.
	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder,

		203, to load and execute at microcomputer, 205, the information segment of said message (which is the **program instruction set of Q.1** and is the output file, PROGRAM.EXE, of said station).
outputting said video at a video monitor;	Page 506 lines 17-21.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
	Page 507 lines 1-7.	"...the information that you see here on your screen," Said studio transmits video information of said person pointing to the upper left hand corner of the video screen, and the image of "TV568*" appears in said corner.
selecting **user specific information**	Page 501 lines 21-25.	...selects from said D:DATA_OF.ITS file information of the aforementioned southwest delivery route telephone number, "456-1414", and causes binary image information of said number to be placed at bit locations that produce video image information in the lower middle portion of a video screen.
to output by processing said generally applicable information in accordance with at least a first of said plurality of combining control signals;	Page 500 lines 20-22.	...and to execute a particular when-interrupted portion of said **program instruction set of Q.1.**
	Page 501 lines 5-6.	Then, under control of the instructions of said when-interrupted portion, microcomputer, 205, determines....
	Page 493 line 33 to page 494 line 8.	At the station of Figs. 7 and 7F, microcomputer, 205, clears its audio RAM then determines, in the predetermined fashion of said **program instruction set of Q.1**, that the shopping list information at particular shopping- list memory at said station includes information of Patak's low-salt Vindaloo Curry Paste. So determining causes said microcomputer, 205, in said predetermined fashion, to select particular sound image information of an announcer's voice saying "low-salt Vindaloo" from among the information of its D:DATA_OF.ITS file and to place said selected information at said audio RAM.
outputting said selected user specific	Page 504 lines 2-11.	"Exotic Meals of India," and transmits audio information of said announcer saying:

information in a series of times of specific relevance		"Super Discount Supermarkets is proud to sponsor the television series, 'Exotic Meals of India.' Being truly exotic, many of the ingredients, can't be found in average supermarkets, but your friendly Super Discount manager is happy to supply all of these ingredients to your family. **Tonight your personal recipe and shopping list call for Patak's"**
	Page 504 line 35 to page 505 line 4.	...and the subscriber of said station can hear said announcer's voice saying: **"low-salt Vindaloo".**
	Page 505 lines 23-30.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "**Curry Paste.** Your local Super Discount Supermarket has a complete line of Patak's Curry Paste products in stock. **Call the telephone number,**"....
	Page 506 lines 16-21.	..."GRAPHICS ON" at the PC-MicroKey system of microcomputer, 205. Automatically, microcomputer, 205, combines its specific video RAM binary image information of "**456-1414**" with its received conventional video information. And automatically **456-1414** is displayed in the lower middle portion of the picture screen of monitor, 202M.
	Page 506 lines 32-35.	Said studio then transmits audio information of the announcer saying, "**that you see on your screen** to have your order....
in response to at least **a second of said plurality of combining control signals;**	Page 504 lines 28-30.	At the station of Fig. 7 and 7F, decoder, 203, receiving said 4th commence-outputting message (#10) causes decoder, 203, to execute "SOUND ON" at the microcomputer, 205 of said station.
	Page 506 lines 13-17.	At the station of Fig. 7 and 7F, receiving said 5th commence- outputting message (#10) causes decoder, 203, to execute "GRAPHICS ON" at the PC-MicroKey system of microcomputer, 205.
inputting at said subscriber station **a first subscriber response**	Page 508 lines 27-30.	At the station of Figs. 7 and 7F, the **enters TV568*** at the keyboard of local input, 225,....

to said user specific combined medium presentation, said user specific combined medium presentation including (i) one of an image and a sound received at said subscriber station from a remote source and (ii) a datum computed at said subscriber station in response to said one or more of said plurality of combining control signals; and	Page 505 lines 25-30.	studio transmits audio information of the announcer saying: "Curry Paste. Your local Super Discount Supermarket has a complete line of Patak's Curry Paste products in stock. Call the telephone number,"
	Page 506 lines 17-21.	Automatically, microcomputer, 205, combines its specific video RAM binary image information of "456-1414" with its received conventional video information. And automatically 456-1414 is displayed in the lower middle portion of the picture screen of monitor, 202M.
	Page 506 line 32 through page 507 line 21.	Said studio then transmits audio information of the announcer saying, "that you see on your screen to have your order delivered to your door. Or if you enter on your Widget Signal Generator and Local Input the information that you see here on your screen," Said studio transmits video information of said person pointing to the upper left hand corner of the video screen, and the image of "TV568*" appears in said corner. Thus each viewer–including the subscriber of the station of Figs. 7 and 7F, said second subscriber, and said third subscriber– can see TV568* in the upper left hand corner of the picture on the monitor, 202M, of his station. Said studio then transmits audio information of the announcer saying, "your Super Discount manager will see that all the ingredients that you need for your personal 'Exotic Meals of India' fish curry recipe are delivered to you in time for dinner tomorrow. And as a special inducement to enter "TV568*" on your Widget Signal Generator and Local Input now, your manager promises to include one jar of Patak's"
	Page 507 line 33 through page 508 line 3.	At the station of Fig. 7 and 7F, decoder, the monitor, 202M, emits sound of said announcer's voice saying: "low-salt Vindaloo".
	Page 508 lines 19-27.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer

		saying: "Curry Paste. Do it now! Enter TV568*' on your Widget Signal Generator and Local Input or call the telephone number that you see on your television screen."
transferring one or more subscriber specific data from said subscriber station to said one or more remote stations based on said first subscriber response.	Page 510 line 26 to page 511 line 9.	Receiving said call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions and information of 1-(800) 247-8700 causes controller, 20, in the fashion described above, to cause auto dialer, 24, to dial the telephone number, 1-(800) 247-8700. Automatically, in the fashion described above, controller, 20, establishes telephone communications with a computer of said super market chain at a remote station. Then said call-this-number-and-respond-with-"A:SHOPPING.EXE" instructions cause controller, 20, to cause the instruction "A:SHOPPING.EXE" to be entered to microcomputer, 205. Entering said instruction causes microcomputer, 205, to execute the instructions of said file, "SHOPPING.EXE" as a machine language job. Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the street address of the station of Figs. 7 and 7F (selected from the file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.

27. Claim 35

Claim Language	Spec. Reference	Specification Language
The method of claim 34, further comprising the step of outputting at a speaker audio which explains information contained in said user specific combined medium presentation.	Page 470 lines 13-17. Page 490 lines 11-23.	...to interconnect in such a way that the audio information received at a tuner, 215, and the video information received at said tuner, 215, are inputted separately, via matrix switch, 258, to monitor, 202M;.... Said studio transmits television picture information of the upper torso of a person and audio information of an announcer saying, "For a limited time only, Super Discount Supermarkets make this special offer to you. Super Discount Supermarkets will deliver to

		you, at cost, all the pork you need to entertain five hundred people for this low, low price ... " Said studio transmits television picture information of the right hand and arm of said person pointing moving to point at the upper left hand corner of the television screen.
	Page 491 lines 6-16.	At the station of Fig. 7 and 7F, decoder, 203, detects the information of said message, and receiving said 1st commence-outputting message (#10) causes decoder, 203, to execute "GRAPHICS ON" at the PC- MicroKey system of microcomputer, 205. Automatically, microcomputer, 205, combines its specific video RAM binary image information of "$1,071.32" with its received conventional video information. And automatically **$1,071.32** is displayed at the upper left hand corner of the picture screen of monitor, 202M, which is the corner to which the image of the person shown at said screen is pointing.

28. Claim 36

Claim Language	Spec. Reference	Specification Language
The method of claim 35, further comprising the step of outputting some of said user specific combined medium presentation at said speaker.	Page 504 line 31 to page 505 line 4,	Automatically, microcomputer, 205, transmits to monitor, 202M, via audio information transmission means, one instance of the information at the audio RAM of said microcomputer, 205, causing the emission of sound of said audio information, and the subscriber of said station can hear said announcer's voice saying: "low-salt Vindaloo".
	with respect to page 504 lines 2-10,	"Exotic Meals of India," and transmits audio information of said announcer saying: "Super Discount Supermarkets is proud to sponsor the television series, 'Exotic Meals of India.' Being truly exotic, many of the ingredients, can't be found in average supermarkets, but your friendly Super Discount manager is happy to supply all of these ingredients to your family. Tonight your personal recipe and shopping list call for Patak's"... .

	and page 505 lines 23-30.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "Curry Paste. Your local Super Discount Supermarket has a complete line of Patak's Curry Paste products in stock. Call the telephone number,"....

29. Claim 37

Claim Language	Spec. Reference	Specification Language
The method of claim 34, wherein said video includes some of a television program, said method further comprising the step of synchronizing the delivery of the balance of said television program at said subscriber station based on said plurality of combining control signals.	Page 470 lines 1-2.	...transmits the programming transmission of a particular conventional television program....
	Page 490 lines 20-23.	Said studio transmits television picture information of the right hand and arm of said person pointing moving to point at the upper left hand corner of the television screen.
	Page 491 lines 6-16.	At the station of Fig. 7 and 7F, decoder, 203, detects the information of said message, and receiving said 1st commence-outputting message (#10) causes decoder, 203, to execute "GRAPHICS ON" at the PC- MicroKey system of microcomputer, 205. Automatically, microcomputer, 205, combines its specific video RAM binary image information of "$1,071.32" with its received conventional video information. And automatically $1,071.32 is displayed at the upper left hand corner of the picture screen of monitor, 202M, which is the corner to which the image of the person shown at said screen is pointing.
	Page 485 lines 14-18.	Under control of the instructions of said program instruction set of Q.1, the microcomputer, 205, of Figs. 7 and 7F generates image information of a first video overlay and generates selected information of subsequent overlays in the following fashion.
	Page 486 lines 23-27.	...causes binary image information of "$1,071.32" to be placed at bit locations of

		video RAM that produce video image information in the upper left hand of a video screen when video RAM information is transmitted to said screen.
	Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)

30. Claim 38

Claim Language	Spec. Reference	Specification Language
The method of claim 34, wherein said subscriber station includes a video random access memory (RAM)	Page 25 lines 1-3.	...in a fashion well known in the art, the instructions cause microcomputer, 205, to enter digital bit information at the video RAM of the graphics card....
operatively connected to said video monitor, said method further comprising	Page 19 line 29 to page 20 line 7.	Microcomputer, 205, is a conventional microcomputer system with disk drives that is adapted to have capacity for receiving signals from decoder, 203; for generating computer graphic information; for receiving a composite video transmission; for combining said graphic information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. One such system is the IBM Personal Computer of International Business Machines Corporation of Armonk, New York with an IBM Asynchronous Communications Adapter installed in one expansion slot and a PC-MicroKey Model 1300 System with Techmar Graphics Master Card,....

	Page 499 line 24 to page 500 line 5,	Then said program originating studio embeds and transmits said 1st cease-outputting message (#10). Said message is identical to the aforementioned third message of the "Wall Street Week" example. Receiving said 1st cease-outputting message (#10) causes each subscriber station to cease combining and to display only the transmitted video information at its monitor, 202M. At the station of Figs. 7 and 7F, decoder, 203, detects the information of said message, and receiving said 1st cease-outputting message (#10) causes decoder, 203, to execute "GRAPHICS OFF" at the PC-MicroKey System of microcomputer, 205. In so doing, decoder, 203, causes said PC-MicroKey to cease combining its specific image information with the conventional video information transmitted by said studio, to commence transmitting only the transmitted video information to monitor, 202M.
he step of clearing said video RAM in response to a third of said plurality of combining control signals.	Page 501 lines 16-17.	Automatically, under control of said instructions, microcomputer, 205, clears video RAM;....

31. Claim 39

Claim Language	Spec. Reference	Specification Language
The method of claim 34, wherein said subscriber station includes a programmable controller	Page 471 line 24 to page 472 line 15	to retain said TV567# information at particular last-local-input-# memory. Five minutes later, said program originating studio embeds in the transmission of the "Exotic Meals of India" programming and transmits a particular first SPAM message that consists of an "01" header, particular execution segment information that is addressed to URS signal processors, 200, appropriate meter-monitor information, padding bits as required, an information segment of particular check-for-entered-information-and-process instructions, and an end of file signal. At the station of Figs. 7 and 7F, said message

		is detected at TV signal decoder, 145, and said execution segment information invokes particular controlled function instructions that cause said message to be transferred to the controller, 20, of signal processor, 200. Automatically, the controller, 39, of decoder, 145, transmits particular switching request information to the control processor, 20A, of signal processor, 200, via the aforementioned control information bus means. Receiving said information causes control processor, 20A, to cause matrix switch, 259, to establish a communications link between said controller, 39, and said controller, 20. Automatically, said controller, 39, transfers said message to said controller, 20. Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions,....
which controls one or more of a code portion receiver,	Page 458 lines 18-35.	One controlled function that is preprogrammed at the controllers, 39, of the decoders, 203, of subscriber stations and that is caused to be executed by receiving a SPAM message containing expand-to-full-field-search execution segment information is a function whose instructions cause said controller, 39, to cause the line receivers, 33, of said decoders, 203, to commence detecting digital information in every frame of its received video information from the first detectable portion of line 20 of said frame to the last detectable portion of the last line of said frame. A second controlled function that is preprogrammed at said controllers, 39, and that is caused to be executed by receiving a SPAM message containing resume- normal-location-search execution segment information is a function whose instructions cause said controller, 39, to cause said line receivers, 33, to commence detecting digital information in the normal transmission location of every frame of its received video information.
a control signal detector,	Page 460 lines 14-19.	Receiving said message causes apparatus at each station to cause the line receiver, 33, of the decoder, 203, of said station to commence detecting digital information in every frame of its received video information from the first detectable portion of line 20 of said frame to the last detectable portion of the last line of said frame.

a computer adapted to generate a video overlay, said method further comprising the steps of:	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
detecting a control program in one of said one or more information transmissions;	Page 471 line 24 to page 472 line 15.	*See above.*
and programming said programmable controller.	Page 471 line 24 to page 472 line 15.	*See above.*

32. Claim 40

Claim Language	Spec. Reference	Specification Language
The method of claim 34, wherein said subscriber station generates information in accordance with said at least a first of said plurality of combining control signals, said method further comprising the step of	Page 484 lines 12-18. Page 487 lines 29-33.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station). Then, under control of said instructions that constitute the specific program instruction set of the microcomputer, 205, of the station of Figs. 7 and 7F, said microcomputer, 205, generates and stores additional information of subsequent outputs, selects sound image information of a first audio overlay, and places said selected information at audio RAM.
selecting said some of a user specific combined medium presentation based on said generated	Page 488 lines 24-27.	and selects the audio information of an announcer's voice saying "forty-six" from among the information of said file, D:DATA_OF.ITS; and places said information at audio RAM.

information.	Page 491 lines 30-35.	Said studio then transmits audio information of the announcer saying:"Super Discount Supermarkets makes this offer--today only--at cost, and this offer represents a saving to you of over."
	Page 492 lines 26-30.	causing the emission of sound of said audio information, and the subscriber of said station can hear said announcer's voice saying: "forty-six".
	Page 493 lines 16-21.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "percent."

33. Claim 41

Claim Language	Spec. Reference	Specification Language
The method of claim 35, wherein said subscriber station generates information based on a second subscriber response, said method further comprising the step of	Page 474 lines 2-8.	Executing said generate-recipe-and-shopping-list instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221; and to retain information of said shopping list at particular memory.
	Page 471 lines 6-17.	Halfway through the program the host says, "If you are interested in cooking what we are preparing here and want a your own printed copy of the recipe tailored to your own tastes and your own shopping list for a charge of only 10 cents, enter on your Widget Signal Generator and Local Input the information that you see on your screen." The information that appears on the screen of each subscriber is "TV567#". Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, said second subscriber, and said third subscriber--enters TV567#, in a fashion well known in the art,....
inputting said second subscriber response	Page 471 lines 6-17,	*See immediately above.*

prior to said first subscriber response.	with respect to page 508 lines 29-30.	At the station of Figs. 7 and 7F, the subscriber enters TV568* at the keyboard of local input, 225,

34. Claim 42

Claim Language	Spec. Reference	Specification Language
The method of claim 35, wherein said subscriber station generates information by processing subscriber data, said method further comprising the step of storing said subscriber data.	Page 474 lines 2-23.	Executing said generate-recipe-and-shopping-list instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221; and to retain information of said shopping list at particular memory. Automatically, microcomputer, 205, accesses its A:DATA_OF.URS file, in a fashion well known in the art, and selects the aforementioned information that specifies the size of the family of the subscriber of said station together with the tastes and dietary habits of the members of said family; determines that one ingredient of the recipe of said family is "Patak's low- salt Vindaloo Curry Paste" (because said family prefers particular very hot and spicy foods and prefers to minimize salt consumption); computes that, at one-half pound of halibut fish and one teaspoonful of said Vindaloo Paste per adult, the recipe of said family (which is of four adults) calls for two pounds of halibut and four teaspoonfuls of said Paste and that the shopping list of said family lists two pounds of halibut and one jar of "Patak's low-salt Vindaloo Curry Paste";....
	Page 469 lines 7-17.	The microcomputer, 205, of the station of Fig. 7 and 7F, is preprogrammed to receive and process automatically meal recipe instructions and holds records of the size of the family of the subscriber of said station together with the tastes and dietary habits of the members of said family. For example, particular information is recorded in a file named DATA_OF.URS that is on a so-called "floppy disk" that is loaded at the A: disk drive at said microcomputer, 205. Said

		information specifies that said family prefers particular very hot and spicy foods, prefers to minimize salt consumption, and consists of four adults.

35. Claim 43

Claim Language	Spec. Reference	Specification Language
The method of claim 12, further comprising the step of generating **one or more first subscriber specific data** including said receiver specific datum.	Page 485 lines 14-18.	Under control of the instructions of said program instruction set of Q.1, the microcomputer, 205, of Figs. 7 and 7F generates image information of a first video overlay and generates selected information of subsequent overlays in the following fashion.
	Page 486 lines 9-27.	Then automatically, on a machine language basis and in a fashion well known in the art, said microcomputer, 205, substitutes the value 4.3 for the variable X in the equation: Y = 1000.00 + 62.21875 + (2.117 * X) computes the value of Y that is specific the the station of Figs. 7 and 7F to be: 1071.32 (rounded in a fashion well known in the art); and stores 1071.32 information at particular 2nd working memory of said microcomputer, 205. Automatically, microcomputer, 205, clears video RAM; causes the background color of video RAM to be a color such as black that is transparent when combined with transmitted video by the PC-MicroKey System; causes binary image information of "$1,071.32" to be placed at bit locations of video RAM that produce video image information in the upper left hand of a video screen when video RAM information is transmitted to said screen.

36. Claim 44

Claim Language	Spec. Reference	Specification Language
The method of claim 13, further comprising the step selecting said graphic based on said	Page 501 lines 10-25.	So determining causes microcomputer, 205, to place "0" at particular Flag-interrupt register memory of said CPU that is normally "1" then to jump to a particular

generated one or more first subscriber specific data.		first-clear-and-continue address of the instructions of said program instruction set of Q.1 and to commence executing first-clear-and-continue instructions at said address. Automatically, under control of said instructions, microcomputer, 205, clears video RAM; sets the background color of video RAM to a transparent overlay black; determines that the aforementioned 1st working memory of said microcomputer, 205, holds southwest-quadrant information; selects from said D:DATA_OF.ITS file information of the aforementioned southwest delivery route telephone number, "456-1414", and causes binary image information of said number to be placed at bit locations that produce video image information in the lower middle portion of a video screen.

37. Claim 45

Claim Language	Spec. Reference	Specification Language
The method of claim 13, further comprising the step of selecting audio based on said generated one or more first subscriber specific data.	Page 489 lines 23-32.	computes information of .4366 [rounded], which is the decimal equivalent of the percentage saving of said second subscriber by dividing the information at said 3rd working memory [which is 882.50] by said cost-of-a-trimmed-pork-belly-unit information [which is 2021.42]; determines that said information of .4366 is greater than .4300 and less than .4400; selects the audio information of an announcer's voice saying "forty-three" from its file, D:DATA_OF.ITS; and places said information at said audio RAM.)

38. Claim 46

Claim Language	Spec. Reference	Specification Language
The method of claim 9, wherein said one or more second subscriber specific data include at least	Page 511 lines 3-9.	Under control of said instructions, microcomputer, 205, transmits via controller, 20, to said computer at a remote station information of the street address of the station of Figs. 7 and 7F (selected from the

one of said one or more first subscriber specific data.		file, A:DATA_OF.URS) and complete information of the aforementioned file, A:SHOPPING.LST, which is the shopping list of the subscriber of said station.
	Page 474 lines 2-6,	Executing said generate-recipe-and-shopping-list instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F;....
	and lines 32-33.	...records one instance of the output of said shopping list at particular shopping-list memory;....

39. Conclusion

Applicants respectfully submit that claims 9-46 of the subject application particularly point out and claim the subject matter sufficiently for one of ordinary skill in the art to comprehend the bounds of the claimed invention. The test for definiteness of a claim is whether one skilled in the art would understand the bounds of the patent claim when read in light of the specification, and if the claims so read reasonably apprise those skilled in the art of the scope of the invention, no more is required. *Credle v. Bond*, 25 F.3d 1556, 30 USPQ2d 1911 (Fed. Cir. 1994). The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994). Applicants have amended the claims to enhance clarity and respectfully submit that all pending claims are fully enabled by the specification and distinctly indicate the metes and bounds of the claimed subject matter.

D. Support for Previous Amendment of "signal words" to "signal units"

During the interview of July 15th, 1999, the Examiners requested Applicants to demonstrate that no new matter was introduced into the

specification in the amendment entered on October 21, 1998 which changed the following language in the specification on page 37 lines 22-25:

> "Controller, 39, 44, or 47, is preprogrammed to receive [units] words of signal information, to assemble said [units] words into signal [words] units that subscriber station apparatus can receive and process, and to transfer said [words] units to said apparatus."

Applicants submit that this amendment was merely made to correct a typographical mistake on their part. Additionally, specification support to verify the necessity of the amendment is found in the following language from page 14 lines 22-35.

> In all cases, signals may convey information in **discrete words**, transmitted at separate times or in separate locations, that receiver apparatus must **assemble** in order to receive **one complete instruction**.
>
> (The term "**signal unit** " hereinafter means one complete signal instruction or information message unit.... The term "**signal word**" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission....) *Emphasis added.*

From the above language, a "**signal unit**" is "one complete signal instruction or information message unit." *Words* of signal information are received and assembled into *signal units*, or completed instructions, for the subscriber station apparatus to receive, process and transfer. Thus, it should be clear from this passage that no new matter was introduced with the amendment and Applicants urge the PTO to maintain and/or enter the previous amendment as appropriate under 37 C.F.R. § 1.118 (a).

E. Prior art anticipation by Campbell et al., U.S. Pat. No. 4,536,791

The examiner of record indicates that Applicants claims are anticipated by Campbell et al. The following sections, categorized by each independent claim,

will demonstrate how Campbell et al. fails to anticipate Applicants' claim language.

U.S. Patent No. 4,536,791 to Campbell et al. relates to addressable cable television control systems with a video formatted data transmission. Campbell et al. discloses an addressable cable television control system that transmits a television program and data signal transmission from a central station to a plurality of remote user stations. Campbell et al.'s data signals include both control and text signals in video line format that are inserted on the vertical interval of the television signals. An intelligent converter at each remote user location processes the data signals to enable controlled descrambling of the television transmission to the system on the basis of channel, tier of service, special event and program subject matter. The converter includes apparatus for interfacing with a two-way interactive data acquisition and control system.

Campbell et al. teaches a head end station that includes a central data system utilizing a control computer that gathers data from a wide variety of sources and formats the data for transmission on video frequency channels. The formatted data is then transmitted by communication link to a television program processor where it is incorporated into the vertical blanking intervals of video signals by a variety of television program sources. The head end unit then transmits the combined cable television and data signal to remote subscribers. Normally, the signals are then transmitted through a cable network to a plurality of subscribers. The signals are received by an addressable converter that determines whether to descramble the received television signal based on proper subscriber, event and eligibility data stored at the receiver station, or to leave the signal in its scrambled format.

1. Independent Claim 9

With respect to Applicants' claim 9, Campbell et al. fails to teach, *inter alia,*

receiving and detecting at said subscriber station, in an information transmission received from said one or more remote stations, *one or more instruct signals which operate to cause at least a portion of a* ***combined medium presentation*** *to be outputted at an output device of said subscriber station;*

computing, second data at said subscriber station by processing at least one of said first data in accordance with said one or more instruct signals;

inputting a subscriber response to said outputted combined medium presentation, ***wherein said outputted combined medium presentation includes*** (i) ***one of an image and a sound received at said subscriber station from a remote transmitter station and*** (ii) ***a portion of said second data;*** and

transferring one datum of said first data and said second data from said subscriber station to said one or more remote stations *based on said subscriber response.*

As Applicants best understand, the Examiner reads Campbell et al. to describe an information transmission that includes control signals within a television signal. However, claim 9 sets forth the computation of second data at the subscriber station by processing subscriber data in accordance with a received instruction signal. Campbell et al. fails to teach such computation. Claim 9 further sets forth that the received instruct signal causes output of a combined medium presentation including (i) either an image and a sound and (ii) a portion of the second data. Campbell et al. fails to teach such a combined medium presentation. Also, claim 9 sets forth transferring a datum of the subscriber data or the computed data from the subscriber station to remote stations.

Applicants respectfully submit that Campbell et al. does not anticipate claim 9 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claims 10-15 & 43-46 depend upon independent claim 9. As discussed *supra*, Campbell et al. fails to disclose every element of claim 9 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 10-15 & 43-46. Therefore, Applicants request that claims 10-15 & 43-46 be permitted to issue.

2. Independent Claim 16

With respect to Applicants' claim 16, Campbell et al. fails to teach, *inter alia*,

generating one or more instruct signals at said transmission station, said *one or more instruct signals effective to cause said subscriber station to generate one or more subscriber specific data in accordance with said one or more instruct signals and transfer said one or more subscriber specific data to said one or more remote stations based on a subscriber response to a combined medium presentation* output at an output device at said subscriber station, *said* ***combined medium presentation*** *including* (i) ***one of an image and a sound received at said subscriber station from a remote source*** *and* (ii) ***a datum computed at said subscriber station in response to said one or more instruct signals;*** and

transmitting said information transmission and *said one or more instruct signals* from said transmission station to said subscriber station.

As Applicants best understand, the Examiner reads Campbell et al. to describe an information transmission that includes control signals within a television signal. However, claim 16 sets forth instruct signals that cause the generation of subscriber specific data and the transfer the subscriber specific data to remote stations based on a subscriber response. Campbell et al. fails to teach

any control signals that function in this manner. Claim 16 further sets forth that the subscriber response is to a combined medium presentation including a datum computed at the subscriber station in response to the instruct signals. Campbell et al. fails to teach a combined medium presentation that includes such a computed datum. Campbell et al., therefore, fails to teach instruct signals as set forth by claim 16.

Applicants respectfully submit that Campbell et al. does not anticipate claim 16 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claim 21-33 depends upon independent claim 16. As discussed *supra*, Campbell et al. fails to disclose every element of claim 16 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 21-33. Therefore, Applicants request that claims 21-33 be permitted to issue.

3. Independent Claim 17

With respect to Applicants' claim 17, Campbell et al. fails to teach, *inter alia*,

receiving *a first instruct signal which is effective* to accomplish one of:

(a) effecting a second transmission station *to generate one or more second instruct signals*, said one or more second instruct signals *effective to cause said subscriber station to generate one or more subscriber specific data* in *accordance with said one or more second instruct signals* and *transfer* said one or more subscriber specific data *to said one or more remote stations based on a subscriber response* to a *combined medium presentation* outputted at an output device at said subscriber station, said ***combined medium presentation including*** (i) ***one of an image and a sound received at said subscriber station from a remote source and*** (ii) ***a datum***

computed at said subscriber station *in response to said one or more instruct signals;* and

(b) effecting a receiver station *to generate one or more second instruct signals,* said one or more second instruct signals *effective to cause said subscriber station to generate one or more subscriber specific data* in *accordance with said one or more second instruct signals* and *transfer* said one or more subscriber specific data *to said one or more remote stations* based on *a subscriber response to a combined medium presentation* outputted at an output device at said subscriber station, said *combined medium presentation including* (i) ***one of an image and a sound received at said subscriber station from a remote source*** and (ii) ***a datum computed*** at said subscriber station *in response to said one or more instruct signals;*

receiving *a transmitter control signal* which *operates to communicate at least one of said first and second instruct signals* to a transmitter; and

transmitting, from said first transmission station, said information transmission and said first instruct signal, wherein said information transmission and said first instruct signal are *transmitted from said first transmission station (i) in response to said transmitter control signal, or (ii) with said transmitter control signal.*

As Applicants best understand, the Examiner reads Campbell et al. to describe an information transmission that includes control signals within a television signal. However, claim 17 sets forth a first instruct signal that effects the generation of second instruct signals that cause the generation of subscriber specific data at a subscriber station. Campbell et al. fails to teach the generation of second instruct signals at either a second transmission station or a receiver station. Claim 17 also sets forth the transfer of the subscriber specific data to remote stations based on a subscriber response to a combined medium presentation including a datum computed in response the instruct signals. Campbell et al. fails to teach a combined medium presentation including a

computed datum and, thus, fails to teach the transfer of subscriber specific data based on a subscriber response to said combined medium presentation.

Applicants respectfully submit that Campbell et al. does not anticipate claim 17 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claims 18-20 depend upon independent claim 17. As discussed *supra*, Campbell et al. fails to disclose every element of claim 17 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 18-20. Therefore, Applicants request that claims 18-20 be permitted to issue.

4. Independent Claim 34

With respect to Applicants' claim 34, Campbell et al. fails to teach, *inter alia*,

receiving one or more information transmissions at said subscriber station, said information transmissions including *generally applicable information* and *a plurality of combining control signals*, said ***generally applicable information*** including (1) ***some of a user specific combined medium presentation*** and (2) *video* to serve as a basis on which *to present said some of a user specific combined medium presentation*, at least said plurality of combining control signals *being received from said one or more remote stations;*

storing at least some of said generally applicable information and said plurality of combining control signals at said subscriber station;

selecting user specific information to output by processing said generally applicable information *in accordance with at least a first of said plurality of combining control signals;*

outputting said selected user specific information in a series of times of specific relevance *in response to at least a second of said plurality of combining control signals;*

inputting at said subscriber station *a first subscriber response to said user specific combined medium presentation,* said user ***specific combined medium presentation including*** (i) ***one of an image and a sound received at said subscriber station from a remote source*** and (ii) ***a datum*** *computed at said subscriber station in response to said one or more of said plurality of combining control signals;* and

transferring one or more subscriber specific data from said subscriber station to said one or more remote stations *based on said first subscriber response.*

As Applicants best understand, the Examiner reads Campbell et al. to describe a information transmission that includes control signals within a television signal. However, claim 34 sets forth inputting a first subscriber response to a user specific combined medium presentation that includes a datum computed in response to combining control signals. Campbell et al. fails to teach any user specific combined medium presentation that includes a computed datum. Claim 34 also sets forth receiving information transmissions including generally applicable information including some of the user specific combined medium presentation. As Campbell et al. fails to show a user specific combined medium presentation as presently set forth, Campbell et al. cannot teach one or more information transmissions as set forth in claim 34.

Applicants respectfully submit that Campbell et al. does not anticipate claim 34 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claims 35-42 depend upon independent claim 34. As discussed *supra,* Campbell et al. fails to disclose every element of claim 34 and thus, *ipso facto,* Campbell et al. fails to anticipate dependent claims 35-42. Therefore, Applicants request that claims 35-42 be permitted to issue.

III. CONCLUSION

In accordance with the foregoing it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Thus, there being no further outstanding objections or rejections, the application is submitted as being in a condition for issuance, which action is earnestly solicited.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of	
John C. Harvey and James W. Cuddihy	Examiner: WEAVER, S.
Serial No. 08/472,980	Group Art Unit: 2742
Filed: June 7, 1995	Atty. Docket. 05634.0353
For: SIGNAL PROCESSING APPARATUS AND METHODS	

BOX: ISSUE FEE - AMENDMENT

Assistant Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

I. REQUEST TO ENTER AMENDMENT AFTER NOTICE OF ALLOWANCE AND AFTER PAYMENT OF ISSUE FEE UNDER 37 C.F.R. § 1.312(A)

This amendment after the notice of allowance and payment of the issue fee is submitted in response to the interviews on June 16th, July 1st and 15th, 1999 and per request of the Examiners of the PTO. Applicants respectfully request that the following amendments be considered and entered into the above-captioned application and the claims be permitted to issue:

In the Claims:

In claim 5, line 13, before "customer" please delete "an" and insert --a--.

11. (Three Times Amended) A method of controlling at least one of a plurality of receiver stations, each of which (i) includes a mass medium program receiver for receiving a mass medium program which comprises audio, a signal detector, and at least one of a computer and a processor, (ii) is adapted to detect the presence of at least one control signal that does at least one of (a) selects and (b) executes operating instructions associated with mass medium programming, said mass medium programming one of completing and supplementing said mass medium program, and (iii) is adapted to input a subscriber reaction to an offer communicated in said mass medium program, said method comprising the steps of:

(1) receiving an instruct signal at a transmitter station;

(2) delivering said instruct signal to a transmitter at said transmitter station, said instruct signal being effective at said at least one of said plurality of receiver stations to store said operating instructions;

(3) receiving, at said transmitter station, [one of a code and a datum] an identifier that designates one of said instruct signal and said subscriber reaction to said offer communicated in said mass medium program;

(4) receiving said at least one control signal at said transmitter station;

(5) delivering said [one of said code and said datum,] identifier and said at least one control signal to said transmitter at said transmitter station; and

(6) transmitting said instruct signal, said [one of said code and said datum,] identifier and said at least one control signal from said transmitter station.

12. (Twice Amended) The method of claim 11, wherein at least one of said at least one control signal and said [one of said code and said datum]

identifier is embedded in one of a television signal and a signal containing a television program.

II. REMARKS

A. Summary of Amendments to the Claims

Claims 5, 11, and 12 are amended. Claims 2-31 are pending in the application. It is proposed herein to amend claim 5 to correct a minor grammatical error. As suggested by the Examiner in the interview held July 15th, 1999, claim 11 and 12 herein are amended to replace the phrase "one of a code or datum" with the term "identifier." As discussed at the interview, this amendment is intended to clarify the claim language in light of the specification. Applicants respectfully submit that the amendments presented herein include no new matter and raise no new issue for consideration by the Examiner.

B. General Overview and Summary of Applicants' 1987 Disclosure

While the Examiners suggest that Applicants' 1987 disclosure may appear to contain a series of isolated examples, Applicants maintain that their examples are carefully tied together. An essential feature of Applicants' disclosure in the specification is that they explain their invention and the various embodiments thereof and their interrelationship. The following description provides the complete context of the disclosure, illuminating important timing and error correction considerations and explaining the interrelationship of Applicants' full system.

One clear series of teachings is focused around the "Wall Street Week" combined image of Fig. 1C. A first part of this image is received in a television signal. Fig. 1B shows this first part. A second part, Fig. 1A, is generated at the

viewer station by processing data, which exists at the viewer station, in response to control instructions which are detected in the television signal. In a section entitled "One Combined Medium" (pages 19-28) at the beginning of the Description of the Preferred Embodiments, a sequence of events associated with the display of Fig. 1C is disclosed. A first series of instructions invoke broadcast control (defined at page 23 lines 24-26), which includes clearing video RAM. A second series of instructions construct the Fig. 1A image at video RAM. The Fig. 1B image is received in the "Wall Street Week" program, and is explained by the program host as showing the performance of the Dow Industrials. When the host says, "And here is what your portfolio did," an instruction in the television signal executes "GRAPHICS ON" which combines the Figs. 1A and 1B images and displays Fig. 1C. After an interval of time during which corresponding personalized programming is displayed simultaneously to every properly equipped member of the "Wall Street Week" audience, an instruction executes "GRAPHICS OFF" and causes Fig. 1A no longer to be displayed. The disclosure defines "combining synch command" at page 26 lines 20-24, and explains that instructions that construct the Fig. 1A, execute "GRAPHICS ON", and execute "GRAPHICS OFF" each comprise a combining synch command. Subsequently, these are referred to throughout the disclosure as the **"first", "second", and "third combining synch commands of the 'Wall Street Week' example".**

After providing a detailed disclosure of apparatus of the invention (called "SPAM" apparatus) and of the composition of messages and message streams, four examples, between pages 108 and 248, disclose alternate ways of processing the first, second, and third combining synch commands of the 'Wall Street Week' example. These examples reference Fig. 3. Example #1 describes transferring the messages to an addressed controller and causing the controller to respond. Examples #2 and #4 disclose alternate decryption techniques whereby portions of

the message stream containing the three combining synch commands are selectively decrypted. Examples #3 and #4, which reference Fig. 3A as the controller of decoders 203 and 205C, disclose the collection of metering data (e.g., for billing purposes) and monitoring data (e.g., for TV viewership ratings) based on content of the first two combining synch commands. Each example discloses control of a sequence of events, and describes carefully how its sequence occurs within the broader context of "One Combined Medium" at pages 19-28. Specifically each of examples #1, #2, #3, and #4 elaborates on the portion of "One Combined Medium" from page 24 line 1 to page 27 line 7. In these four examples, each later example builds upon concepts disclosed and definitions provided in the earlier examples.

Example #5 (pages 248-271) focuses on functions performed by Signal Processor 200 in Fig. 3 *concurrently with* the sequence of events described in "One Combined Medium" *and at apparatus which perform* the metering and monitoring of examples #3 and #4. The first combining synch command of the "Wall Street Week" example is also processed in example #5. Example #5 introduces concepts that are subsequently used (e.g., in example #7) to teach automatic selection of programming, including the "Wall Street Week" program itself. At pages 271-278, the disclosure explains how the metering and monitoring, in particular of the first combining synch command of the "Wall Street Week" example, causes the content of recorder 16 to exceed a predetermined level which causes the Signal Processor to telephone a remote data collection station and dump the content of recorder 16 to the remote station.

Example #7, which occurs at pages 288-312 and 427-447 and incorporates concepts of example #6, teaches selection of the "Wall Street Week" program itself, interconnection of subscriber station apparatus to provide station station specific processing *alternatives* based on prestored instructions, and decryption of

the "Wall Street Week" program transmission. The disclosure teaches (e.g., page 311 lines 10-16) how this causes the station (now of Fig. 4 or Fig. 7 which are subscriber stations of the intermediate transmission station of Fig. 6) to perform the functions "One Combined Medium" and examples #1-#4.

The disclosure also cites (pages 322-333) and sites the "Wall Street Week" monitoring and metering functionalities within the extended Fig. 5 monitoring disclosed at pages 312-314.

In "Controlling Computer-Based Combined Media Operations" (pages 447-457), the disclosure teaches how the "Wall Street Week" subscriber portfolio contents and stock price data come to be up-to-date when the program begins, teaches that the Fig. 1C combining is the first of a series of overlays, teaches error detection techniques to prevent the display of incorrect or incomplete overlays, and teaches error correction techniques to enable slow viewer station computers that fall behind to catch up.

A second clear series of teachings is focused around a television spot commercial called program unit Q.

Within the disclosure of automated intermediate transmission station functionality that begins at page 324, program unit Q is introduced at page 331 lines 21-22 in a passage that teaches organizing units of prerecorded programming to play according to schedule.

Example #8 (pages 340-354) discloses that program unit Q is a television spot commercial and teaches how it is transmitted with other spot commercials from a satellite uplink to automated cable TV headends which are caused automatically to select, store, and retransmit the spot commercials at different times and on different channels.

Example #9 (pages 354-374) discloses that program unit Q is a combined medium television spot commercial and teaches how one of the automated

headends of example #8 creates and transmits according to a schedule a time specific and transmitter specific control signal with data that applies to specials and discounts in a local supermarket at the scheduled time of transmission. The relationship of examples #8 and #9 is discussed at page 355 lines 15-32.

Example #10 (pages 374-390) teaches how the automated headend (as one of a plurality of such headends each) creates the time specific and transmitter specific control signal with data and inserts the control signal into a network broadcast of combined medium program unit Q.

The subscriber station functionalities associated with both examples #9 and #10 (see page 469 line 1) are taught at pages 469-516. Each of a plurality of viewer stations creates receiver specific output in response to the control signal(s) as well as selecting viewer specific output from among the transmitted transmitter specific data. Each outputs its output in a series of time intervals of specific relevance. The relationship of pages 469-514 to pages 324-390 is explicit and unmistakable in that every disclosure (e.g., 354-374, 374-390, and 469-516) teaches a sequence of more than thirteen messages with matching names. These include, for example, the **"transmit-and-execute-program-instruction-set message"** (page 371 lines 9-10, page 385 lines 7-8, and page 484 lines 1-2) and **"program-instruction-set message"** (page 371 lines 17-19, page 385 lines 14-16, and 484 line 5). Furthermore, corresponding named ones of these messages are disclosed in each respective passage (e.g., 354-374, 374-390, and 469-516) to have functionally identical content and to cause identical functioning at the subscriber stations. The passage at page 514 lines 8-30 states this.

Having disclosed all the individual elements and procedures of their system, Applicants finish their disclosure by describing a cycle in "Summary Example #11". The cycle involves controlling the disclosed system on a large scale to interconnect and distribute information to users, create control signals,

create output in response to the control signals, display and explain the information and output, and receive and process feedback in order to repeat the cycle. Important disclosed functions such as preprogramming operating system instructions (page 537), creation of control signals (pages 541-547), creation of output for display (e.g., pages 548-551), display of the output (e.g., middle of page 552 to top of page 554), reception of feedback (pages 555-556), and distribution of new information based on the feedback (page 556) are cited in specific sequence and make clear reference to the pertinent portions of the specification that disclose these important functions.

C. Specification Support of the Claims

1. Claim 2

In a network having a receiver station (e.g., a television viewer station with control logic) and a transmitter station (e.g., for transmitting a processor control signal), a television program is displayed (e.g., reoccurring weekly program). A command is inputted (e.g., a subscriber request for a new occurrence of the weekly program which requires logical processing, such as decryption, in order to be transferred in a useable form). Based on the command, the receiver station communicates an event signal to the transmitter station (e.g., notification that the receiver station needs an additional signal or signals in order to transfer the programming in useable form). The transmitter responds by transmitting operating instructions to enable the receiver station to transfer the programming. The operating instructions program or reprogram the receiver station to respond to a processor control signal (e.g., a instruction communicated with the programming). The receiver station receives and processes the processor control signal, causing an output device (e.g., a speaker or display) at the receiver station to receive and output the programming to a listener or viewer.

Claim 2 finds support at pages 278-312 (especially 288-312) of the specification and in the passages cited below in Patent No. 4,694,490 from which the instant application claim priority.

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
A method of delivering one of broadcast programming and cablecast programming to a subscriber in a communications network,	Page 289 lines 4-15.	Said studio transmits the information of said program to a plurality of intermediate transmission stations by so-called "landline" means and/or Earth orbiting satellite transponder means, well known in the art. Each of said intermediate transmission stations receives the transmission originated by said studio and retransmits the information of said transmission to a plurality of ultimate receiver stations. In example #7, the intermediate station that retransmits "Wall Street Week" program information to the subscriber station of Fig. 4 is a cable television system head end (such as the head end of Fig. 6).
	Page 324 lines 11-17.	The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously.
	Page 29 lines 6-15.	Said processor, 26, is configured for simultaneous use with a cablecast input that conveys both television and radio programming and a broadcast television input. At switch, 1, and mixers, 2 and 3, signal processor, 26, monitors all frequencies or channels available for reception at the subscriber station of Fig. 2 to identify available programming. The inputted information is the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.

said network including a transmitter station	Page 324 lines 18-21.	Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Page 289 line 14.	...a cable television system head end (such as the head end of Fig. 6).
and a receiver station,	Page 289 lines 22-27.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences.
said transmitter station being capable of communicating a processor control signal associated with said programming,	Page 297 lines 20-29.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of a "01" header, execution segment information that matches said enable-WSW-programming information, particular meter-monitor information, particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")
	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
said receiver station having an input device for inputting subscriber information,	Page 288 lines 1-20.	Finally, Fig. 4 shows local input, 225, well known in the art, which has means for generating and transmitting control information to controller, 20, of signal processor, 100. The function of local input, 225, is to provide means whereby a subscriber may input information to the signal processor of his subscriber station, thereby controlling the functioning of his personal signal processor system is specific predetermined fashions that are described more fully below. In the preferred

		embodiment, local input, 225, is actuated by keys that are depressed manually by the subscriber in the fashion of the keys of a so-called touch- tone telephone or the keys of a typewriter (or microcomputer) keyboard. As Fig. 4 shows, microcomputer, 205, also has capacity for inputting control information to microcomputer, 205, via decoder, 203, and in the preferred embodiment, microcomputer, 205, may also automatically substitute for local control, 225, in predetermined fashions in inputting control information to said controller, 20, on the basis of preprogrammed instructions and information previously inputted to said microcomputer, 205.
a processor for storing and processing subscriber data in response to said processor control signal,	Page 298 line 10 to page 299 line 27.	Receiving the "1st-WSW-program -enabling-message (#7) causes controller, 20, to execute the aforementioned load-and-run-@20 instructions, to load the 1st-stage-enable -WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job. Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission. Automatically, controller, 20, causes the control processor, 39J, of decoder, 30, to accept no SPAM message information from the EOFS valve, 39F. Then automatically, controller, 20, selects information of the last three significant digits of the binary information of the aforementioned unique digital code at ROM, 21; computes that particular Q quantity that is 16 less than the product of multiplying the numerical information of said digits times 256 (which is 2 to the 8th power); and selects information of those particular sixteen contiguous bit locations at the RAM associated with the control processor, 39J, of decoder, 30, that commence at the first bit location that is said Q quantity of bit locations after a particular first bit location at said RAM. At the station of Fig. 4, the preprogrammed information of said sixteen contiguous bit locations is

		decryption cipher key Ba. (In the present invention, the preferred method of preprogramming subscriber station signal processing apparatus is to preprogram each station with all authorized information but to vary the locations of the information from station to station in accordance with station specific information that varies from station to station--for example, in example #7, Ba cipher information can be preprogrammed at eight different RAM locations and the particular location that applies at any given station that is authorized with such information relates to the last three significant digits of the unique digital code of said station in the fashion of the above Q quantity computation.) Automatically, controller, 20, transfers said decryption cipher key Ba information to a selected decryptor, 224, and causes decryptor, 224, to commence decrypting any received information, using said key information and selected decryption cipher algorithm B, and outputting decrypted information to matrix switch, 258. Automatically, controller, 20, causes matrix switch, 258, to transfer the information of the aforementioned video output inputted from said tuner, 215, to the output that outputs to decryptor, 224, thereby causing said decryptor, 224, to receive the information of said video portion (said information being, as explained above, encrypted digital video), to decrypt said information, and to transfer decrypted information of said video portion to matrix switch, 258.
	In general see, page 279 line 30 to page 280 line 35.	The means and methods of the present invention for regulating reception and use of programming relate, in particular, to three features of the present invention. The computer system of the present invention has capacity at each subscriber station to compute station specific information based on preprogrammed information that exists at each station and that differs from station to station. Given this capacity, any central control station of the present invention that originates a SPAM transmission can cause subscriber station apparatus to decrypt received SPAM information in different fashions with each station decrypting its received information is its own station

		specific fashion. A central station can cause different stations to compute different station specific decryption cipher keys and/or algorithms to use in any given step of decryption or to compute station specific key and/or algorithm identification information that differs from station to station and controls each station in identifying the key and/or algorithm to use for any given step of decrypting. A second feature of the present invention is that effective SPAM processing depends on the correspondence between the transmitted SPAM information that causes processing at the subscriber stations and the information preprogrammed at the various stations that controls the SPAM processing at each station. In order for any given SPAM execution segment to invoke any given controlled function at any given station, the received binary information of said segment (for example, "010011") must match preprogrammed controlled-function-invoking information ("010011") at each station. This feature permits each station to be preprogrammed with station specific controlled-function- invoking information that differs from station to station (which means that no single SPAM execution segment could invoke a given function at all stations without first being processed at selected stations to render its information to correspond to the station specific preprogrammed invoking information of said stations). The third feature of the present invention is an extended system of means and methods for regulating the reception and use of SPAM information--including decryption key and algorithm information--that is illustrated in Fig. 4 and discussed more fully below.
a communications device for transmitting information to a remote site,	Page 33 lines 7-12.	Signal processor, 26, has a controller device which includes programmable RAM controller, 20; ROM, 21, that may contain unique digital code information capable of identifying signal processor, 26, and the subscriber station of said processor, 26, uniquely; an automatic dialing device 24; and a telephone unit, 22.
	Page 301 lines 6-30.	At each station where a match fails to occur--which indicates that a decryptor, 224,

		is not decrypting its received information correctly and suggests that the preprogrammed SPAM operating information of said station may have been tampered with--not resulting in a match causes the controller, 20, of said station to cause all information of said 1st-WSW-program- enabling-message (#7) to be erased from all memory of said station except for a particular portion of said 1st-stage- enable-WSW-program instructions loaded at the RAM of said controller, 20, then to execute the information of said portion as instructions of a machine language job. Executing said portion causes controller, 20, to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined remote station, in the fashion described above, and causes controller, 20, then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said station uniquely. If telephone communications are not established with said remote station in a predetermined fashion and/or within a predetermined time interval, the instructions of said portion cause said controller, 20, to erase all preprogrammable RAM and EPROM of the signal processing apparatus at said station, thereby disabling said apparatus.)
and an output device for displaying a television program, said method comprising the steps of:	Page 310 lines 6-8 and lines 22-24.	...thereby causing monitor, 202M, to commence receiving said audio information and emitting sound in accordance with said audio information. ...thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.
displaying said television program at said output device;	Page 310 lines 6-8 and lines 22-24.	...thereby causing monitor, 202M, to commence receiving said audio information and emitting sound in accordance with said audio information. ...thereby causing monitor, 202M, to commence displaying, at its television picture tube, the information of the transmitted television image.
inputting a command	Page 289 line 22 to	In example #7, the controller, 20, of the signal

at said input device;	page 290 line 3.	processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. (So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225. Alternately, microcomputer, 205, can be preprogrammed with particular specific-WSW information and, in a predetermined fashion that is described more fully below, caused to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to said controller, 20.)
communicating, from said receiver station to said transmitter station,	Page 311 line 33 to page 312 line 8.	And for example, determining that a local station is not preprogrammed properly and/or that decryption, stripping, and/or signal generating apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating--eg., the local apparatus ... may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
an event signal	Event: page 311 lines 33-34, and signal: page 312 line 6.. Page 301 lines 14-23.	And for example, determining that a local station is not preprogrammed properly.... ...interrogate remote station apparatus, by telephone.... a particular portion of said 1st-stage-enable-WSW-program instructions loaded at the RAM of said controller, 20, then to execute the information of said portion as instructions of a machine language job. Executing said portion causes controller, 20, to cause the auto dialer, 24, and telephone connection, 22, of said station to establish telephone communications with a particular predetermined remote station, in the fashion described above, and causes controller, 20, then to transmit the aforementioned appearance-of-tampering information together with complete information of the unique digital code that identifies said

		station uniquely.
based on said command inputted at said receiver station;	Page 289 line 22 to page 290 line 3.	*See above.*
transmitting, from said transmitter station to said receiver station,	Page 297 lines 20-29.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of a "01" header, execution segment information that matches said enable-WSW-programming information, particular meter-monitor information, particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")
operating instructions associated with said programming, in response to said event signal communicated from said receiver station;	Page 298 lines 14-16. Page 312 lines 6-8.	...then to execute the information so loaded as the so-called machine language instructions of one so-called job. ...may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
one of programming and reprogramming, on the basis of said transmitted operating instructions, said receiver station	Page 298 lines 6-16.	Executing said instructions causes said control processor, 39J, to transfer the information of said message to controller, 20, in the fashion of the local-cable-enabling-message (#7). Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.
to respond in a predetermined fashion to said processor control signal;	Page 278 lines 30-32.	Said means and methods involve the operation of preprogrammed cipher keys (such as keys J and Z) and cipher algorithms to decrypt transmitted information.
receiving, at said receiver station, said processor control signal;	Page 305 line 30. Page 226 lines 25-28.	...the information inputted from signal generator, 230,.... When divider, 4, commences transferring the embedded information of said second message to decoder, 203, the binary SPAM

		information of said message is received at decoder, 203;....
processing, at said receiver station, said processor control signal; and	Page 298 lines 16-21.	Executing said 1st-stage-enable-WSW-program instructions causes controller, 20, in the predetermined fashion of said instructions, to affect a first stage of decrypting the video information of the "Wall Street Week" program transmission.
	Page 309 line 27 to page 310 line 3.	Determining that signal stripper, 229, and that signal generator, 230, are stripping and inserting correctly (after having determined that that decryptors, 224 and 231, are decrypting correctly) causes the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the decrypted television information of the "Wall Street Week" program to microcomputer, 205, and monitor, 202M.
causing said receiver station to receive and output said programming in accordance with said processor control signal.	Page 294 line 30 to page 295 line 7.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission, to cause selected apparatus to commence waiting to receive further enabling information, and to create a meter record that documents the decryption of the cable audio transmission at the station of Fig. 4. Automatically, controller, 20, causes matrix switch, 258, to cease transferring video and audio information to monitor, 202M. Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13,
	Page 309 line 34 to page 310 line 3.	...executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the decrypted television information of the "Wall Street Week" program to microcomputer, 205, and monitor, 202M.
	Page 236 lines 1-10.	Transmitting the instruction, "GRAPHICS ON", to the PC-MicroKey System of the

		subscriber station of Fig. 3 (and transmitting "GRAPHICS ON" to other PC-MicroKey Systems at other subscriber stations where the program instruction set of the first message has been run at a microcomputer, 205, and where said second message causes "GRAPHICS ON" to be transmitted) causes said PC-MicroKey System to combine the programming of Fig. 1A and of Fig. 1B and transmit the combined programming to monitor, 202M, where Fig. 1C is displayed.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
A method of delivering one of broadcast programming and cablecast programming	Column 10 lines 18-20.	...a broadcast station transmitting only a single channel of programing or a cable system cablecasting many channels.
to a subscriber in a communications network,	Column 6 lines 23-30.	A signal processor apparatus for simultaneous use with a cablecast input that conveys both television and radio programing and a broadcast television input is shown in Figure 1. As shown, the input signals are the entire range of frequencies or channels transmitted on the cable and the entire range of broadcast television transmissions available to a local television antenna of conventional design.
said network including a transmitter station	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. Figure 3 illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programing.
and a receiver station,	Column 17 lines 49-53.	Figure 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site.
said transmitter station being capable of communicating a processor control signal associated with said programming,	Column 13 lines 17-32.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programing uninterrupted may be embedded in the programing or may be elsewhere. Signal processor, 100, identifies, evaluates, possibly decrypts, and passes a signal or signals to decrypter/interrupter,

		101, either at the time of receipt of such programing or at a delayed time or a combination. The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission or not to decrypt the transmission or to interrupt the transmission or not to interrupt the transmission. The signal or signals may also inform decrypter/interrupter, 101, how to decrypt or interrupt the programing if decrypter/ interrupter, 101, is capable of multiple means. The signal or signals may transmit a code or codes necessary for the decryption of the transmission.
said receiver station having an input device for inputting subscriber information,	Column 17 line 62 to page 18 line 4.	They might include forecast data. Signal processor, 200, is always operating and monitors all incoming channels. It can convey such signals to microcomputer, 205, whenever it receives them. TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating. Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
	Column 13 lines 32-47.	Figure 4A also shows local input, 102, with means for generating and transmitting signals to signal processor, 00. Local input, 102, is intended to permit a person at a local receiving site that is prevented, by any means, from receiving programing to instruct signal processor, 100, that the site wants to be enabled to receive the programing. Local input, 102, may also serve other purposes. Local input, 102, may convey a continuous signal or an occassional signal or a one-time-only signal. It may be activated by one or more switches or buttons or combinations. It may be a computer acting in a predetermined fashion. The signal may be input to signal processor, 100, as described in Figure 1, at buffer/comparator, 8, or signal processor or monitor, 12, or buffer/comparator, 14.
a processor for storing and processing subscriber data in response to said processor control	Column 8 lines 32-44.	The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns. It can instruct buffer/ comparator, 8, how to

signal,		assemble signal words into signal units and join units together for further transfer and how to determine which signals to pass to decrypter, 10. It can tell decrypter, 10, when and how to change decryption patterns, fashions, and techniques. It can tell processor or monitor, 12, how to determine which signals to pass externally and when and where and how to determine which signals to pass to buffer/comparator, 14.
	Column 14 lines 54-61.	If signal processor, 112, has been preprogramed with the signal or signals or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113, for example, where to look for the signals and when and how, signal processor, 112, can transfer the signal to decryptor/interruptor, 115.
a communications device for transmitting information to a remote site,	Column 8 lines 20-25.	The signal processor apparatus also has a controller device which includes programable random access memory controller 20, read only memory 21 that may contain a unique digital code capable of identifying the signal processing apparatus uniquely, an automatic dialing device 24, and a telephone unit, 22.
and an output device for displaying a television program, said method comprising the steps of:	Column 14 lines 2-9.	For example, only the video portion of the transmission may be encrypted. The audio portion may remain unencrypted. In such a circumstance, a connection such as that shown in Figure 4B could pass unencrypted signals to signal processor 103, while passing a transmission unsuitable for satisfactory viewing, if the signals were placed in the audio portion of the overall transmission.
displaying said television program at said output device;	Column 14 lines 2-9.	*See above.*
inputting a command at said input device;	Column 13 lines 40-44.	Local input, 102, may convey a continuous signal or an occassional signal or a one-time-only signal. It may be activated by one or more switches or buttons or combinations. It may be a computer acting in a predetermined fashion.
communicating, from said receiver station to said transmitter station,	Column 15 lines 20-25.	In any of the cases illustrated in Figures 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption

		and/or transfer of incoming programing transmissions.
an event signal	Column 15 lines 22-23.	*See immediately above.*
based on said command inputted at said receiver station;	Column 13 lines 40-44.	*See immediately above.*
transmitting, from said transmitter station to said receiver station,	Column 15 lines 23-25.	...telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions.
operating instructions associated with said programming,	Column 5 lines 18-20.	...and a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.
	and column 9 lines 20-23.	The controller, 20, ... is interactive with external sources via telephone connection, 22, and can be reprogramed from such remote sources.
in response to said event signal communicated from said receiver station;	Column 15 lines 20-25.	In any of the cases illustrated in Figures 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions.
one of programming and reprogramming, on the basis of said transmitted operating instructions, said receiver station	Column 5 lines 18-20,	a programmable random access memory controller ("PRAM controller") that permits revision of operating patterns and instructions.
	with column 9 lines 20-23.	The controller, 20, ...is interactive with external sources via telephone connection, 22, and can be reprogramed from such remote sources.
	Column 8 lines 25-42.	The controller, 20, governs the operation of all operating elements of the apparatus. The controller, 20, inputs the local oscillator, 6, a sequential pattern to select the various channels to be received by switch, 1, and mixers, 2 and 3. This then allows the channels to be diverted to the detectors, receivers, and decoders in any predetermined pattern desired. The controller, 20, can instruct signal decoders, 30 and 40, when, where, and how to look for signal words, which allows signal words to be received in any pattern or patterns. It can instruct buffer/ comparator, 8,

		how to assemble signal words into signal units and join units together for further transfer and how to determine which signals to pass to decrypter, 10. It can tell decrypter, 10, when and how to change decryption patterns, fashions, and techniques. It can tell processor or monitor, 12, how to determine which signals to pass externally and when and where and how to determine which signals to pass to buffer/comparator, 14.
to respond in a predetermined fashion to said processor control signal;	Column 15 lines 1-4.	If signal processor, 112, can identify, processes, and transfer the needed signal or signals, decryptor/interruptor, 115, can decrypt and/or transfer the incoming transmission from box, 114, satisfactorily.
	Column 13 lines 1-9.	Figures 4A through 4E illustrate methods for governing the reception of programing and the use of signal processor apparatus in these methods. All of these methods involve the use of one or more devices, of which various models exist well known in the art, for the decryption of programing transmissions and/or one or more other means for interrupting programing transmissions, also well known in the art, which may be as simple as a switch....
receiving, at said receiver station, said processor control signal;	Column 13 lines 17-32.	The signals that enable the decrypter/interrupter, 101, to decrypt and/or transfer programing uninterrupted may be embedded in the programing or may be elsewhere. Signal processor, 100, identifies, evaluates, possibly decrypts, and passes a signal or signals to decrypter/interrupter, 101, either at the time of receipt of such programing or at a delayed time or a combination. The signal or signals instruct decrypter/interrupter, 101, to decrypt the transmission or not to decrypt the transmission or to interrupt the transmission or not to interrupt the transmission. The signal or signals may also inform decrypter/interrupter, 101, how to decrypt or interrupt the programing if decrypter/interrupter, 101, is capable of multiple means. The signal or signals may transmit a code or codes necessary for the decryption of the transmission.
	Column 19 lines 14-20.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being

		cablecast on the multi-channel system. Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14.
processing, at said receiver station, said processor control signal; and	Column 14 lines 54-61. Column 19 lines 20-23.	If signal processor, 112, has been preprogramed with the signal or signals or if it has been informed of the predetermined fashion for identifying and processing the the needed signal or signals in the incoming transmission from facility, 113, for example, where to look for the signals and when and how, signal processor, 112, can transfer the signal to decryptor/interruptor, 115. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.
causing said receiver station to receive and output said programming in accordance with said processor control signal.	Column 15 lines 1-4. Column 19 lines 12-29. Column 19 line 63 to column 20 line 2.	*See above.* Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system. Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week." *See above.*

2. Claim 3

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said command is a subscriber reaction to said television program.	Page 289 line 22 to page 290 line 3.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. (So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225. Alternately, microcomputer, 205, can be preprogrammed with particular specific-WSW information and, in a predetermined fashion that is described more fully below, caused to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to said controller, 20.)

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said command is a subscriber reaction to said television program.	Column 19 lines 5-15.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast. Microcomputer, 205, is preinformed of the time of cablecasting. When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on. Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.

3. Claim 4

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2,	Page 289 line 22 to	In example #7, the controller, 20, of the signal

wherein said event signal communicated from said station comprises a customer order for said programming.	page 290 line 3.	processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. (So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225. Alternately, microcomputer, 205, can be preprogrammed with particular specific-WSW information and, in a predetermined fashion that is described more fully below, caused to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to said controller, 20.)

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said event signal communicated from said station comprises a customer order for said programming.	Column 19 lines 5-15.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast. Microcomputer, 205, is preinformed of the time of cablecasting. When that time comes, microcomputer, 205, receives no program identification signals whatever from TV signal decoder, 203, which indicates that the set, 202, is not on. Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.

4. Claim 5

In a network as in claim 2, a television program is displayed at a receiver station and a subscriber reaction to the television program (e.g., a transfer of information in the program to an addressed device) is inputted (e.g., to a transfer device). In regard to television programming, one of (1) a customer order, (2) an identification, (3) a viewership statistic, and (4) a query is communicated from the

receiver station. Operating instructions (e.g., computer instructions) are received at the receiver station (e.g., a computer) in response to the subscriber reaction. The operating instructions are stored and control the receiver station to receive and output one of (i) the television programming and (ii) information associated with said television programming (e.g., a subsequent output).

Claim 5 finds support in portions of the specification that focus on the processing and display of the "Wall Street Week" program and its Fig. 1C combining. Pertinent disclosures occur in the "One Combined Medium" section at pages 19-28 which describe the basic receiver equipment and concepts associated with the Fig. 1C combining, in "example #3" at pages 162-197 which disclose processing of monitoring information associated with the combining synch commands that cause the Fig. 1C to be displayed, "example #7" at pages 288-312, which discloses the selection of display of the "Wall Street Week" program itself, and "Controlling Computer Based Combined Media Operations" at pages 447-457, which discloses concepts associated with automatic acquisition of data (e.g., stock prices) necessary to produce the Fig. 1C combining and concepts associated with further overlays whose creation is based on the first combining synch command and that are displayed in the "Wall Street Week" program following the Fig. 1C combining. Claim 5 finds support in U.S. Patent 4,694,490, from which the instant application claims priority, in the passages cited below.

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
A method of delivering television programming	Page 20 lines 21-29.	In the example, the subscriber station of Fig. 1 is in New York City and is tuned to the conventional broadcast television transmission frequency of channel 13 at 8:30 PM on a Friday evening when the broadcast station of said frequency, WNET,

		commences transmitting a television program about stock market investing, "Wall Street Week." Said WNET station is an intermediate transmission station for said program which actually originates at a remote television studio in Owings Mills, Maryland.
to a subscriber	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
in a communications network,	Page 20 line 31 to page 21 line 4.	From said program originating studio said program is transmitted by conventional television network feed transmission means, well known in the art, to a large number of geographically dispersed intermediate transmission stations that retransmit said program to millions of subscriber stations where subscribers view said program. Said network transmission means may include so-called landlines, microwave transmissions, a satellite transponder, or other means.
said network comprising a transmitter station	Page 20 lines 26-29.	Said WNET station is an intermediate transmission station for said program which actually originates at a remote television studio in Owings Mills, Maryland.
	Page 289 lines 12-15.	In example #7, the intermediate station that retransmits "Wall Street Week" program information to the subscriber station of Fig. 4 is a cable television system head end (such as the head end of Fig. 6).
and a receiver station,	Page 20 line 21.	...the subscriber station of Fig. 1....
said transmitter station being capable of communicating a processor control signal associated with said television programming,	Page 25 line 34 to page 26 line 8.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV

		monitor, 202M.
	Page 26 lines 20-28.	(Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command." Said initial signal word or words that preceded the above program instruction set provide another example of a combining synch command in that said word or words synchronized all subscriber station computers in commencing loading and running information for a particular combining.)
said receiver station comprising an input device for inputting subscriber information,	Page 26 line 2. Page 34 lines 17-20.	...decoder, 203.... SIGNAL DECODERS Signal decoder apparatus such as decoder, 203, in Fig. 1 and decoders, 30 and 40, in Fig. 2 are basic in the unified system of this invention.
	Page 156 lines 10-33.	THE PREFERRED CONFIGURATION OF CONTROLLER, 39, AND SPAM-CONTROLLER, 205C. Heretofore, this specification has treated the controller of decoder, 203, (which is controller, 39) and the SPAM input controller of microcomputer, 205, (which is SPAM-controller, 205C) as separate controllers. This treatment has served to show how SPAM messages are transferred from one controller to another, at any given subscriber station. But, in the preferred embodiment, the controller of the decoder that detects the SPAM signals of a combined medium transmission, at any given subscriber station, and the controller that executes the information of said signals at the microcomputer that combines the local and broadcast programming, at said station, are one and the same. More precisely, controller, 39, of decoder, 203, and SPAM-controller, 205C, are one and the same (and are called, hereinafter, "controller, 39"). Thus the preferred embodiment of controller, 39, is configured and preprogrammed not only to control the detecting, correcting, converting, and executing of controlled functions at decoder, 203, but also to input to and execute at microcomputer, 205, the

		information of any given detected SPAM message that is addressed to URS microcomputers, 205. Fig. 3A shows one such preferred controller, 39.
a processor for storing and processing subscriber data in response to said processor control signal,	Page 23 line 35 to page 24 line 27.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.") In a fashion well known in the art, microcomputer, 205, loads the received binary information of said set at a designated place in RAM until, in a predetermined fashion, it detects the end of said set, and it executes said set as an assembled, machine language program in a fashion well known in the art. Under control of said program instruction set and accessing the subscriber's contained portfolio data file for information in a fashion well known in the art, microcomputer, 205, calculates the performance of the subscriber's stock portfolio and constructs a graphic image of that performance at the installed graphics card.
a communications device for transmitting information to a remote site,	Page 31 line 30 to page 32 line 20.	Buffer/comparator, 14, receives signal information that is meter information and/or monitor information from controller, 12, and from other inputs; organizes said received information into meter records and/or monitor records (called, in aggregate, hereinafter, "signal records") in a predetermined fashion or fashions; and

		transmits said signal records to a digital recorder, 16, and/or to one or more remote sites. With respect to particular simple or frequently repeated instances of signal information, buffer/comparator, 8, has capacity to determine, in a predetermined fashion or fashions, what received information should be recorded, how it should be recorded, and when it should be transmitted to recorder, 16, and/or to said remote sites and to initiate or modify signal records and to discard unnecessary information accordingly. To avoid overloading digital recorder, 16, with duplicate data, buffer/comparator, 14, has means for counting and/or discarding duplicate instances of particular signal information and for incorporating count information into signal records. Buffer/comparator, 14, receives time information from clock, 18, and has means for incorporating time information into signal records. Buffer/comparator, 14, also has means for transferring received information immediately to a remote site or sites via telephone connection, 22, and for communicating a requirement for such transfer to controller, 20, which causes such transfer.
and a television monitor for displaying a television program, said method comprising the steps of:	Page 22 lines 19-22.	Tuner, 215, receives this television transmission, converts the received television information into audio and composite video transmissions, and transmits the audio to monitor, 202M, and the video via divider, 4, to microcomputer, 205, and decoder, 203.
displaying said television program at said television monitor;	Page 25 lines 23-34.	While microcomputer, 205, performs these steps, TV monitor, 202M, displays the conventional television image and the sound of the transmitted "Wall Street Week" program. During this time the program may show the so-called "talking head" of the host as he describes the behavior of the stock market over the course of the week. Then the host says, "Now as we turn to the graphs, here is what the Dow Jones Industrials did in the week just past," and a studio generated graphic is transmitted. Fig. 1B shows the image of said graphic as it appears on the video screen of TV monitor, 202M. Then the host says, "And here is what your portfolio did."

inputting at said input device a subscriber reaction to said television program;	Page 25 line 34 to page 26 line 4.	At this point, an instruction signal is generated at said program originating studio, embedded in the programming transmission, and transmitted. Said signal is identified by decoder, 203; transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON".
	Page 189 lines 8-14;	...said match causes control processor, 39J, to cause matrix switch, 39I, to cease transferring information from EOFS valve, 39F, to control processor, 39J, and commence transferring information from control processor, 39J, to the PC-MicroKey System of microcomputer, 205; to transmit the instruction, "GRAPHICS ON", to said PC-MicroKey System;....
	with page 183 lines 4-20.	...and compares the information at said SPAM-exec memory with controlled-function-invoking information that is preprogrammed at the RAM and/or ROM associated with said processor, 39J. A match results with the aforementioned execute-conditional-overlay-at-205 information that is identical to the execute-conditional-overlay-at-205 information preprogrammed at SPAM-controller, 205C, of example #1. Said match causes control processor, 39J, to execute the aforementioned conditional-overlay-at-205 instructions. Said instructions cause SPAM-controller, 205C, to execute "GRAPHICS ON" at the PC-MicroKey System of microcomputer, 205, if the information of the program unit field in the meter-monitor information of said second message matches the information at said SPAM-first-precondition register memory and the information of the overlay number field in said meter-monitor information matches the information at said SPAM-second-precondition register memory.
	Page 450 lines 27-35.	(To accomplish all this has required only that the subscriber of microcomputer, 205, [and other subscribers at other stations] cause the installation and connection of the apparatus shown in the figures of this submission, especially Fig. 7 (and 7C); caused his microcomputer, 205, to be preprogrammed as described above; and preinformed

		microcomputer, 205, of his wish to view said "Wall Street Week" program by causing the aforementioned select-WSW information to be recorded at said microcomputer, 205.)
communicating from said receiver station a datum of one of	Page 271 line 33 to page 272 line 1. Page 180 lines 27-33.	In examples #3, #4, and #5, the transmission of SPAM signal information causes signal processor, 200, to transfer signal record information by telephone to remote station computers. The command execution segment of the 1st monitor information (#3) causes signal processor, 200, to assemble the this new monitor record in a particular format of a combined video/computer medium display and to include a particular record format field within said format identifying the format of said record.
(1) a customer order for said television programming;	Page 289 line 22 to page 290 line 3.	In example #7, the controller, 20, of the signal processor, 200, of Fig. 4 is preprogrammed at a particular time with particular information that indicates that the subscriber of said station wishes to view said "Wall Street Week" program when transmission of said program on cable cable 13 commences. (So preprogramming controller, 20, can occur in several fashions. For example, prior to a particular time, a subscriber may enter particular please-fully-enable-WSW-on-CC13-at-particular-8:30 information at local input, 225, and cause said information, in a predetermined fashion, to be inputted to controller, 20, by local input, 225. Alternately, microcomputer, 205, can be preprogrammed with particular specific-WSW information and, in a predetermined fashion that is described more fully below, caused to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to said controller, 20.)
(2) an identification of said television programming, said television programming being associated with said television program;	Page 271 line 33 to page 272 line 1. Page 192 lines 33 to page 193 line 10.	*See above.* The particular overlay information of the command meter-monitor segment of the 2nd monitor information (#3) also provides new information. Controller, 20, uses said particular overlay information in several fashions. It records in a particular field of said new monitor record a count, starting with "1" for said first overlay, of the number of overlays processed in the course of said

		program unit. It increments by one a separate monitor record count of the aggregate number of overlays displayed at monitor, 202M, over a particular calendar month period. And it increments by one a separate monitor record count of the aggregate number of combinings processed by all receiver station apparatus over a particular time period.
	Page 189 lines 18-23.	At the subscriber station of Fig. 3 (and at URS microcomputers, 205, at other subscriber stations), said instruction, "GRAPHICS ON", causes said PC-MicroKey System to combine the programming of Fig. 1A and of Fig. 1B and transmit the combined programming to monitor, 202M, where Fig. 1C is displayed.
	Page 26 lines 2-11.	...transferred to microcomputer, 205; and executed by microcomputer, 205, at the system level as the statement, "GRAPHICS ON". Said signal instructs microcomputer, 205, at the PC-MicroKey 1300 to overlay the graphic information in its graphics card onto the received composite video information and transmit the combined information to TV monitor, 202M. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
(3) a viewership statistic; and	Page 271 line 33 t o page 272 line 1.	*See above.*
	Page 192 lines 9-25.	By comparing said information with date and time information from clock, 18, in a predetermined fashion, controller, 20, determines whether said "Wall Street Week" programming is being displayed at the time of its original transmission or whether it has been so- called "time shifted"; that is, recorded at one time an a receiver station video tape recorder and played back at a subsequent time. If controller, 20, determines that the time of clock, 18, is the time of original transmission (plus or minus particular error parameter information), controller, 20, deletes the information of the day of the particular transmission within a one hundred year period from said monitor record, modifies the record format field with information that distinguishes said new

		record as a record of a display of an original transmission, and enters all other recorded information of said new monitor record into the particular fields of said format.
	Page 181 lines 2-5,	...onboard controller, 14A, selects and records at particular signal record field locations at said record location the information that identifies the program unit of the particular "Wall Street Week" program,....
	with page 88 lines 17-22, and	In the third example, combined information is displayed at each subscriber station just as in the first example. In addition, monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
	Page (ii) lines 18-23.	OPERATING S.P. SYSTEMS EXAMPLE #3
(4) a query for information related to a portfolio of subscriber data;	Page 449 lines 26-35.	Alternatively, microcomputer, 205, is caused in a predetermined fashion (for example, by a SPAM message a given transmission monitored by signal processor, 200, in any of the above described fashions) automatically to telephone a remote data service computer, by means of network, 262, in a fashion well known in the art, and to cause said remote computer to select and transmit the particular closing price datum or data of the stock or stocks of the portfolio of said microcomputer, 205, thereby causing said microcomputer, 205, to record said datum or data in a predetermined fashion.
receiving, at said receiver station, operating instructions associated with said television programming in response to said inputted subscriber reaction;	Page 24 lines 2-4.	Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series.
	Page 171 lines 4-7;	Automatically, microcomputer, 205, commences receiving the information of the program instruction set in said first message, beginning with the first signal word of said set, and loads said information at particular main RAM.
	with page 167 lines 3-7.	A match results with the aforementioned execute-at-205 information that is identical to the execute- at-205 information preprogrammed at SPAM-controller, 205C, of example #1. Said match causes control

		processor, 39J, to execute the aforementioned load-run-and-code instructions.
storing, at said receiver station, said operating instructions; and	Page 24 lines 14-21. Page 171 lines 4-7.	(Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.") In a fashion well known in the art, microcomputer, 205, loads the received binary information of said set at a designated place in RAM ... as an assembled, machine language program in a fashion well known in the art. Automatically, microcomputer, 205, commences receiving the information of the program instruction set in said first message, beginning with the first signal word of said set, and loads said information at particular main RAM.
controlling, in accordance with said operating instructions, said receiver station to receive and output one of said television programming	Page 25 lines 1-4. Page 26 lines 8-11. Page 177 line 25 to page 178 line 3.	...in a fashion well known in the art, the instructions cause microcomputer, 205, to enter digital bit information at the video RAM of the graphics card in a particular pattern that depicts the said percentage change as it would be graphed on a particular graph with a particular origin and set of scaled graph axes. Upon completion of these steps, the instructions cause microcomputer, 205, to commence waiting for a subsequent instruction from decoder, 203. If the information at video RAM at the end of these steps were to be transmitted alone to the video screen of a TV monitor, it would appear as a line of a designated color, such as red, on a background color that is transparent when overlaid on a separate video image. Black is such a background color, and Fig. 1A shows one such line. TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. As described in "One Combined Medium" above, running the information of said program instruction set causes microcomputer, 205, (and URS microcomputers, 205, at other subscriber stations) to place appropriate Fig. 1A image information at particular video RAM. In addition, running said set also causes

		microcomputer, 205, after completing placing said image information at said RAM, to transfer particular number-of-overlay-completed information and instructions to control processor, 39J. Said information and instructions cause control processor, 39J, to place the number "00000001" at particular SPAM-second-precondition register memory at control processor, 39J, signifying that said image information represents the first overlay of its associated video program.
	Page 452 line 30 to page 453 line 1.	For example, receiving the second message of the "Wall Street Week" program causes the combining of Fig. 1A information and Fig. 1B information only at stations where information at the aforementioned SPAM-first-precondition and SPAM-second-precondition register memories matches selected information of the meter-monitor segment of said message.
and information that is associated with said television programming.	Page 451 lines 1-11.	Then the combined medium combining process described above in "One Combined Medium" and in examples #1, #2, #3, #4, etc. commences. And the Fig. 1C combining is displayed. But the combining of Fig. 1C is just part of a larger process. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, the program instruction set in the first message of the "Wall Street Week" example instructs microcomputer, 205, to generate not one but a plurality overlays. The combining of Fig. 1C is merely the first.
	Page 453 lines 31-32.	The next overlay of said program, which is the second overlay, is identified with information of "00000010".

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
A method of delivering television programming to	Column 19 line 60 to column 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This

		signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.
a subscriber	Column 19 line 67.	The viewer then sees a microcomputer generated graphic....
in a communications network,	Column 16 lines 32-39.	For example, a person might instruct video cassette recorder, 135, automatically to record the NBC Network Nightly News as broadcast over station WNBC in New York City. Recorder, 135, might receive the programing over Manhattan Cable TV channel 4 and record the programing from 7:00 PM to 7:30 PM on the evening of July 15, 1985. Each discrete bit of this information could be conveyed to recorder, 135, in a signal unit or units in the programing so received and recorded.
said network comprising **a transmitter station**	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. Figure 3 illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programing.
and **a receiver station,**	Column 17 lines 47-53.	Figure 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of Figure 6 is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.
said transmitter station being capable of communicating **a processor control signal** associated with said television programming,	Column 17 lines 34-46	Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing Instruction and Information Signals that are Embedded in Television and Radio Programing Transmissions to Such External Equipment Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are

		addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment.
said receiver station comprising an input device for inputting subscriber information,	Column 17 line 60 to column 18 lines 4.	Such signals might include current outside temperature and barametric readings. They might include forecast data. Signal processor, 200, is always operating and monitors all incoming channels. It can convey such signals to microcomputer, 205, whenever it receives them. TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating. Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
a processor for storing and processing subscriber data in response to said processor control signal,	Column 19 lines 35-49.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio. Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.
	Column 15 lines 52-65.	If a unit like the microcomputer can receive transmissions from more than one source or of more than one kind--television, radio, or other--it will have sufficient apparatus to monitor every channel and kind of transmission it can receive. The signals for which the decoders are monitoring are likely to be unique digital codes that may identify each programing or data unit received and the source of each. They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission. They may convey unique identifier codes for each program or commercial. In the case of data

		transmitted to the micro- computer, they may be unique codes that identify the source and suppliers of the data.
	Column 16 line 51 to column 17 line 9.	Signal processor, 130, would probably receive these signals from decoders, 131, 136, 138, 143, 145, 147, 149, and 150) at its buffer/comparator unit, 14 (referring to Fig. 1), in a predetermined fashion that would permit signal processor, 130, to identify which decoder the individual signals come from and, in a predetermined fashion, create a signal string by appending digital information to the received signal which information might identify the individual decoder, 131, 136, 138, 143, 145, 147, 149, or 150 and the time of receipt at signal processor, 130. To minimize the use of data recorder, 16, buffer/comparator, 14, may evaluate signals in a predetermined fashion and discard some signals rather than passing them to the recorder, 16. It may compare each signal from a given source such as decoder, 131, with other signals received earlier from the same source. It may only count incoming duplicate signals or it may append a time code to the end of the basic signal string formed around the first received signal and alter this time designation each time a new duplicate signal is identified so that the time code identifies the time of receipt of the last duplicate signal. Whatever method is used, the buffer/comparator, 14, may discard all duplicate signals received. At a time when buffer/comparator, 14, determines in a predetermined fashion that it will receive no further duplicate signals, it transfers the full signal string to recorder, 16.
a communications device for transmitting information to a remote site,	Column 8 lines 46-50.	The controller, 20, also inputs the digital recorder, 16, to direct it to output the information from the memory of the recorder, 16, to telephone connection, 22, and thence to the collection site at the remote geographical location.
and a television monitor for displaying a television program, said method comprising the steps of:	Column 19 lines 28-29.	...to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."
displaying said television program at said television	Column 19 lines 53-60.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic

monitor;		is pictured. The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic. Then the host says, "And here is what your portfolio did."
inputting at said input device **a subscriber reaction** to said television program;	Column 19 lines 60-64. Column 17 line 44.	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. ...identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.
communicating from said receiver station a datum of one of: (1) **a customer order** for said television programming;	Column 19 lines 46-48. Column 19 lines 42-48. Column 15 lines 63-65.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. In the case of data transmitted to the microcomputer, they may be unique codes that identify the source and suppliers of the data.
(2) **an identification of said television programming,** said television programming being associated with said television program;	Column 19 line 63-64. Column 15 lines 63-65. Column 19 line 67 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. *See above.* *See above.*
(3) **a viewership statistic**; and	Column 19 lines 5-30.	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast. Microcomputer, 205, is preinformed of the time of cablecasting. ... microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to

		channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week." Co-ordinating Multimedia Presentations in Time
	Column 19 lines 45-48;	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.
	and lines 63-64.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.
	Column 15 lines 60-63.	They may identify networks, broadcast stations, channels on cable systems, and possibly times of transmission. They may convey unique identifier codes for each program or commercial.
	Column 3 lines 49-67.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not. This method provides techniques whereby, automatically, single channel, single medium presentations, be they television, radio, or other electronic transmissions, may be recorded, co-ordinated in time with other programing previously transmitted and recorded, or processed in other fashions. Multimedia presentations may be co-ordinated in time and/or in place as, for example, when real-time video programing is co-ordinated with presentations from a microcomputer working with data supplied earlier. This method provides techniques whereby the timing and fashion of the playing, processing, and co-ordination of a presentation or presentations may be determined at the time and place of transmission or of presentation, either in whole or in part, either locally or remotely, or a combination of these factors. The method provides monitoring techniques to develop data on patterns of viewership....
	Column 15 lines 26 to 32.	Methods for Monitoring Reception and Operation

		Figure 5 illustrates methods for monitoring reception and operation which methods can be used to gather statistics on programing usage and associated uses of other data transmissions and equipment. Such statistics are necessary, for example, in the development of television program ratings.
(4) a query for information related to a portfolio of subscriber data;	Column 19 lines 35-41.	Each weekday, microcomputer, 205, receives, about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.
receiving, at said receiver station, operating instructions associated with said television programming in response to said inputted subscriber reaction;	Column 19 lines 45-48. Column 18 lines 1-4.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
storing, at said receiver station, said operating instructions; and	Column 19 lines 48-53.	These signals instruct microcomputer, 205, ... upon command. Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week,"....
controlling, in accordance with said operating instructions, said receiver station to receive and output one of said television programming	Column 19 lines 48-53. Column 19 line 64 to column 20 line 2.	These signals instruct microcomputer, 205, ... upon command. Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week,".... This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.
and information that is associated with said television programming.	Column 20 lines 2-6.	When the two studio generated graphics are no longer displayed, the studio stops sending the instruction signal, and the microcomputer, 205, ceases transmitting its own graphic to TV set, 202, and prepares to send the next locally generated graphic overlay upon instruction from the originating studio.

5. Claim 6

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an instruct-to-tune signal that causes a receiver to receive a selected transmission.	Page 291 lines 9-20.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of a "01" header, execution segment information that matches said enable-next-program-on-CC13 information, particular meter-monitor information, information segment information of particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).")
	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said instructions as the machine language instructions of one job.
	Page 294 lines 28-33.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission,....
	Page 295 lines 6-7.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13,....

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5,	Column 19 lines 14-15,	Microcomputer, 205, instructs signal

wherein said processor control signal is an instruct-to-tune signal that causes a receiver to receive a selected transmission.	and lines 24-25.	processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201,...

6. Claim 7

A remote data source (e.g., a data service) stores data (e.g., transfer enabling data) to be processed to complete or supplement television programming. The data source receives a query for one of (i) a function associated with television programming (e.g., to enable transfer of television programming content) and (ii) the data. The data source transmits a signal which instructs the receiver station to store operating instructions and a signal that controls the receiver station to process the operating instructions.

Claim 7 finds support at pages 278-312 (especially 288-312) of the specification and in the passages cited below in U.S. Patent 4,694,490, from which the instant application claims priority.

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
A method of providing a function to a receiver station	Page 311 line 33 to page 312 line 8.	And for example, determining that a local station is not preprogrammed properly and/or that decryption, stripping, and/or signal generating apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating--eg., the local apparatus may disable local apparatus selectively and only partially by, for example, preventing a decoder, 203, from processing embedded SPAM combining synch commands and may interrogate remote station apparatus, by telephone, for

		cipher key and/or cipher algorithm instructions and information.
	Page 311 lines 13-16.	...thereby causing the apparatus of the station of Fig. 4 (and of other correctly regulated and connected stations) to commence functioning in the fashions described above in "One Combined Medium" and in examples #1, #2, #3, and #4.
from at least one remote data source,	Page 288 lines 30-33.	In example #7, the program originating studio that originates the "Wall Street Week" transmission transmits a television signal ....
	Page 289 lines 12-15.	In example #7, the intermediate station that retransmits "Wall Street Week" program information to the subscriber station of Fig. 4 is a cable television system head end (such as the head end of Fig. 6).
said function for use at the receiver station in at least one of receiving and presenting at least one of (i) television programming	Page 291 lines 9-20.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of a "01" header, execution segment information that matches said enable-next-program-on-CC13 information, particular meter-monitor information, information segment information of particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")
	Page 294 lines 30-33.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission,....
	Page 289 lines 19-21.	...then transmits the information of said program on cable channel 13, commencing at a particular 8:30 PM time on a particular Friday night.
	Page 309 line 27 to page 310 line 8.	Determining that signal stripper, 229, and that signal generator, 230, are stripping and inserting correctly (after having determined

		that that decryptors, 224 and 231, are decrypting correctly) causes the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the decrypted television information of the "Wall Street Week" program to microcomputer, 205, and monitor, 202M. Automatically, controller, 20, causes matrix switch, 258, to transfer the decrypted audio information inputted from decryptor, 107, to monitor, 202M, thereby causing monitor, 202M, to commence receiving said audio information and emitting sound in accordance with said audio information.
and (ii) **information that does one of**	Page 25 lines 9-14.	If the information at video RAM at the end of these steps were to be transmitted alone to the video screen of a TV monitor, it would appear as a line of a designated color, such as red, on a background color that is transparent when overlaid on a separate video image. Black is such a background color, and Fig. 1A shows one such line.
completes	Page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
and supplements said television programming, said method comprising the steps of:	Page 25 lines 33-34; with column 26 lines 8-10.	Then the host says, "And here is what your portfolio did." TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
storing, at said at least one remote data source,	Page 288 line 21 to page 289 line 4.	OPERATING S. P. REGULATING SYSTEMS ... EXAMPLE #7 Example #7 illustrates the operation of the the signal processing regulating system of Fig. 4 and demonstrates the interaction of the aforementioned first and third features of the present invention--the capacity to compute station specific information at each subscriber station and the system of

		regulating (and metering) means and methods that is illustrated in Fig. 4. In example #7, the program originating studio that originates the "Wall Street Week" transmission transmits a television signal that consists of so-called "digital video" and "digital audio," well known in the art. Prior to being transmitted, the digital video information is doubly encrypted, by means of particular **cipher algorithms A and B and cipher keys Aa and Ba**, in such a way that said information requires decryption at subscriber stations in the fashion described below. The digital audio is transmitted in the clear.
data	Page 288 line 35 to page 289 line 1; and lines 18-19.	...by means of particular cipher algorithms A and B and cipher keys Aa and Ba,.... ...using particular cipher algorithm C and cipher key Ca, then transmits the information of said program on cable channel 13,....
that is to be used as a basis for said information that does said one of **completes** and **supplements** said television programming;	Page 23 line 35 to page 24 line 27.	Subsequently, a second series of instructions is embedded and transmitted at said program originating studio. Said second series is detected and converted into usable digital signals by decoder, 203, and inputted to microcomputer, 205, in the same fashion as the first series. Microcomputer, 205, evaluates the initial signal word or words which instruct it to load at RAM (from the input buffer to which decoder, 203, inputs) and run the information of a particular set of instructions that follows said word or words just as the information of a file named FILE.EXE, recorded on the contained floppy disk, would be loaded at RAM (from the input buffer to which the disk drive of said disk inputs) and run were the command "FILE" entered from the console keyboard to the system level of the installed disk operating system. (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.") In a fashion well known in the art, microcomputer, 205, loads the received binary information of said set at a designated place in RAM until, in a predetermined fashion, it detects the end of said set, and it executes said set as an assembled, machine language program in a fashion well known in the art.

		Under control of said program instruction set and accessing the subscriber's contained portfolio data file for information in a fashion well known in the art, microcomputer, 205, calculates the performance of the subscriber's stock portfolio and constructs a graphic image of that performance at the installed graphics card.
	Page 22 lines 1-5.	a first series of control instructions is generated, embedded sequentially on said line or lines of the vertical interval, and transmitted on the first and each successive frame of said television program transmission,
receiving, from said receiver station, at said at least one remote data source,	Page 311 line 33 to page 312 line 8.	And for example, determining that a local station is not preprogrammed properly and/or that decryption, stripping, and/or signal generating apparatus are not functioning correctly may cause apparatus of said station to perform other steps of disabling and/or communicating—eg., the local apparatus may disable local apparatus selectively and only partially by, for example, preventing a decoder, 203, from processing embedded SPAM combining synch commands and may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
a query for one of (i) a function associated with said television programming	Page 312 lines 6-8.	...may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
	Page 289 lines 18-19.	...using particular cipher algorithm C and cipher key Ca, then transmits the information of said program on cable channel 13, commencing at a particular 8:30 PM time on a particular Friday night.
and (ii) said data;	Page 288 line 35 to page 289 line 1; and lines 18-19.	*See above.*
transmitting, from said at least one remote data source to said receiver station, in response to said step of receiving,	Page 297 lines 20-29.	Subsequently, but still in the interval between said commence-enabling time and said 8:30 PM time, said program originating studio embeds in the audio portion and transmits a particular SPAM message that consists of a "01" header, execution segment information that matches said enable-WSW-programming information, particular

		meter-monitor information, particular 1st-stage-enable-WSW-program instructions as the information segment information, and an end of file signal. (Hereinafter said message is called the "1st-WSW-program-enabling-message (#7).")
	Page 312 lines 6-8.	...may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
an instruct signal	Page 59 lines 29-31.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations.
which is effective at said receiver station to cause said receiver station to store	Page 298 lines 10-16.	Receiving the "1st-WSW-program-enabling-message (#7) causes controller, 20, to execute the aforementioned load- and-run-@20 instructions, to load the 1st-stage-enable-WSW- program instructions of the information segment at particular RAM of controller, 20, then to execute the information so loaded as the so-called machine language instructions of one so-called job.
operating instructions	Page 298 lines 12-13; and page 312 line 7.	*See above.* *See above.*
at a storage device	Page 298 line 14.	*See above.*
that is associated with a processor;	Page 33 lines 7-8.	Signal processor, 26, has a controller device which includes programmable RAM controller, 20;....
transmitting, from said at least one remote data source to said receiver station,	Page 303 line 29 to page 304 line 11.	Each of said messages consists of a "01" header, execution segment information that matches said enable-WSW-programming information, particular meter-monitor information, particular 2nd-stage-enable-WSW- program instructions as the information segment information, and an end of file signal. Each of said messages is identical except as as regards certain differences in said 2nd-stage-enable-WSW-program instructions that are described below. Prior to being embedded and transmitted the information of each of said messages is encrypted, in the same fashion as the first message of example #4 (except that key J is used), and the encrypted information of the

		execution segment is identical to particular controlled- function-invoking information that instructs use decryption key J to decrypt the information of said message in the fashion of the decrypting of said second message. (Hereinafter, each of said SPAM messages is called a "2nd-WSW-program-enabling-message (#7).")
a signal	Page 59 lines 29-31.	*See above.*
which controls said receiver station to process said operating instructions.	Page 304 line 14 to page 305 line 2.	Transmitting said message causes the line receiver, 33, of decoder, 30, to receive the embedded SPAM information of that particular 2nd-WSW-program-enabling-message (#7) that is embedded on said line Q; the detector, 34, to detect the digital information of said message; and the controller, 39, to process said information. Automatically, control processor, 39J, causes controller, 20, to cause the decryptor, 39K, of decoder, 30, to commence decrypting using decryption key J and causes decryptor, 39K, to receive the information of said message. Automatically, decryptor, 39K, decrypts the encrypted information of said message and transfers said message to EOFS valve, 39H. Automatically, EOFS valve, 39H, inputs the information of said message, unencrypted, to control processor, 39J, until the end of file signal of said message is detected. Automatically, control processor, 39J, determines that the unencrypted information of the execution segment of said message matches the aforementioned instance of enable-WSW-programming information at said particular controlled-function-invoking information location and executes the aforementioned transfer-this-message-to-controller-20 instructions. Executing said instructions causes the transfer of the information of said message to controller, 20, in the fashion of the local-cable-enabling-message (#7).

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
A method of	Column 15 lines 1-7;	If signal processor, 112, can identify, processes,

providing a function to a receiver station		and transfer the needed signal or signals, decryptor/interruptor, 115, can decrypt and/or transfer the incoming transmission from box, 114, satisfactorily. If signal processor, 112, cannot transfer the needed signal or signals, decryptor/interruptor, 115, cannot decrypt and/or transfer the programing transmission satisfactorily.
	lines 20-25.	In any of the cases illustrated in Figures 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions.
from at least one remote data source,	Column 9 lines 21-23.	It is interactive with external sources via telephone connection, 22, and can be reprogramed from such remote sources.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission.
	Column 11 lines 50-57.	For example, if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
said function for use at the receiver station in at least one of receiving and presenting at least one of (i) television programming	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."
and (ii) information that does one of	Column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks'

		performance overlay the studio generated graphic.
completes and	Column 19 line 67 to column 20 line 2.	*See above.*
supplements said television programming, said method comprising the steps of:	Column 19 lines 59-60;	Then the host says, "And here is what your portfolio did."
	Column 19 lines 67 to column 20 line 1.	*See above.*
	with column 18 lines 67-68.	...may record the information in memory or transfer it to printer, 221, for printing.
storing, at said at least one remote data source,	Column 11 lines 3-7.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing and pass them, along with information identifying the channel source of each signal, externally to code reader, 72.
data that is to be used as a basis for said information that does said one of completes and supplements said television programming;	Column 11 lines 4-5.	...to identify and separate the instruction and information signals....
	column 19 lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.
receiving, from said receiver station, at said at least one remote data source,	Column 15 lines 20-25.	In any of the cases illustrated in Figures 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions.
a query	Column 9 lines 21-23.	It is interactive with external sources via telephone connection, 22, and can be reprogramed from such remote sources.
for one of (i) a function associated with said television programming	Column 15 lines 22-23;	...could also operate in a predetermined fashion and telephone a remote site to get an additional signal....
	with column 19 lines 12-14;	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 37-53.	It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those

		prices that relate to the stocks in its stored portfolio. Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
and (ii) said data;	Column 15 lines 1-4.	If signal processor, 112, can identify, processes, and transfer the needed signal or signals, decryptor/interruptor, 115, can decrypt and/or transfer the incoming transmission from box, 114, satisfactorily.
	Column 19 lines 12-23.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system. Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.
	Column 19 line 59 to column 20 line 2.	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.
	Column 19 lines 35-53.	Each weekday, microcomputer, 205, receives,

		about 4:30 PM, by means of a digital information channel, all closing stock prices applicable that day. It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio. Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
transmitting, from said at least one remote data source to said receiver station, in response to said step of receiving,	Column 15 lines 20-25.	In any of the cases illustrated in Figures 4A through 4E, signal processors, 100, 103, 106, 109, and 112, could also operate in a predetermined fashion and telephone a remote site to get an additional signal or signals necessary for the proper decryption and/or transfer of incoming programing transmissions.
	Column 9 lines 21-23.	It is interactive with external sources via telephone connection, 22, and can be reprogramed from such remote sources.
an instruct signal	Column 8 lines 35-39.	[Controller, 20] can instruct buffer/comparator, 8, how to assemble signal words into signal units and join units together for further transfer and how to determine which signals to pass to decrypter, 10.
which is effective at said receiver station to cause said receiver station to	Column 17 lines 39-44.	Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed.
store operating instructions at	Column 19 lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.

		These signals instruct microcomputer, 205, ... upon command. Subsequently,....
a storage device	Column 18 lines 65-67.	...microcomputer, 200, may record the information in memory or transfer it....
that is associated with a processor;	column 17 line 62 to column 18 line 4.	[Signal processor, 200] can convey such signals to microcomputer, 205, whenever it receives them. TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating. Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
transmitting, from said at least one remote data source to said receiver station,	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.
a signal	Column 19 lines 43-44.	...signals embedded in the "Wall Street Week" programing transmission.
which controls said receiver station to process said operating instructions.	Column 19 line 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

7. Claim 8

An origination transmitter station controls a remote intermediate transmitter station (e.g., a cable head end which receives and retransmits signals) to transmit an instruct signal to a receiver station (e.g., a television viewer station). The remote intermediate transmitter station includes (i) a transmitter, (ii) a plurality of selective transfer devices (e.g., switches and/or storage devices) connected to the transmitter, (iii) a receiver for receiving the instruct signal from the origination

transmitter station, (iv) and control signal detector, and (v) a controller capable of controlling at least one of the selective transfer devices to transmit the instruct signal in response to a control signal. The origination transmitter station receives and delivers to an origination transmitter (i.e., transmits to the intermediate station) an instruct signal which is effective to cause a computer at the receiver station to store operating instructions (e.g., the instruct signal passes to the computer instructions which program the computer to perform a series of functions "upon command" and the instructions are executed by the computer in response to one or more commands subsequently received by the computer). The origination transmitter receives a control signal (e.g., an identifier to be transmitted with the instruct signal and compared to a transmission schedule by the intermediate station) which controls the intermediate transmitter station to deliver the instruct signal to its transmitter. The origination transmitter delivers the control signal to the origination transmitter before a specific time (e.g., a scheduled time of transmitting an information transmission containing the instruct signal from the intermediate transmitter station).

With regard to the functioning of the transmitter station, support for claim 8 is found at pages 374-390 of the specification. With regard to the corresponding functionality of the receiver station, support is found at pages 468-516. (As explained above in section **Error! Reference source not found.**, the correspondence between these two passages is clear through the use of a narrative sequence in each passage which uses carefully defined message names and processing functions associated with more than thirteen messages.) Claim 8 is also supported independently at pages 354-374, although not shown in the table below. Claim 8 finds support in Patent No. 4,694,490, from which priority is claimed, in the passages cited below.

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
A method of controlling a remote intermediate data transmitter station	Page 374 line 32 to page 375 line 10.	In example #10, a particular program originating studio transmits the commercial of program unit Q in a network transmission and controls a plurality of intermediate transmission stations each of which controls, in turn, a plurality of subscriber stations that are ultimate receiver stations. The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83. The program unit Q of example #10 is identical to the program unit Q of example #9, and each intermediate transmission station must generate transmit its own, station specific program instruction set and data module set information that contains its own, station specific formula- and-item-of-this-transmission information.
to communicate data	Page Page 375 lines 8-12.	The program unit Q of example #10 is identical to the program unit Q of example #9, and each intermediate transmission station must generate transmit its own, station specific program instruction set and data module set information that contains its own, station specific formula-and-item-of-this-transmission information.
to at least one receiver station,	Page 374 line 34 to page 375 line 2.	...a plurality of intermediate transmission stations each of which controls, in turn, a plurality of subscriber stations that are ultimate receiver stations.
	Page 390 lines 30-31.	Fig. 7 exemplifies one embodiment of an ultimate receiver station;...
with said remote intermediate data transmitter station including (i) one of a broadcast transmitter and a cablecast transmitter	Page 375 lines 3-6.	The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 324 lines 7-21.	AUTOMATING INTERMEDIATE TRANSMISSION STATIONS The signal

		processing apparatus outlined in Figs. 2, 2A, 2B, 2C, and 2D, and their variants as appropriate, can be used to automate the operations of intermediate transmission stations that receive and retransmit programming. The stations so automated may transmit any form of electronically transmitted programming, including television, radio, print, data, and combined medium programming and may range in scale of operation from wireless broadcast stations that transmit a single programming transmission to cable systems that cablecast many channels simultaneously. Fig. 6 illustrates Signal Processing Apparatus and Methods at an intermediate transmission station that is a cable television system "head end" and that cablecasts several channels of television programming.
	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
for transmitting at least one instruct signal which is effective at said at least one receiver station to instruct	Page 382 lines 17-24.	Immediately after commencing to transmit said programming of Q, said studio embeds in the normal transmission location of the transmission of said programming and transmits a particular SPAM message is addressed to URS signal processors, 200, and that causes ultimate receiver stations to combine their microcomputers, 205, to the computer system of the transmission of said program originating studio.
	Page 40 lines 16-23.	INTRODUCTION TO THE SIGNALS OF THE INTEGRATED SYSTEM The signals of the present invention are the modalities whereby stations that originate programming transmissions control the handling, generating, and displaying of programming at subscriber stations. (The term, "SPAM," is used, hereinafter, to refer to signal processing apparatus and methods of the present invention.)
one of a first computer and a processor	Page 45 line 21 to page 46 line 2.	Execution segment information includes the subscriber station apparatus that the command of said segment addresses and the

		controlled functions said apparatus is to perform. ("ITS" refers, hereinafter, to intermediate transmission station apparatus, and "URS" refers to ultimate receiver station apparatus.) Examples of addressed apparatus include: ITS signal processors (in 71 in Fig. 6), ITS controller/computers (73 in Fig. 6), URS signal processors (200 in Fig. 7), URS microcomputers (205 in Fig. 7),...
to store operating instructions	Page 46 lines 8-11.	Examples of controlled functions include: Load and run the contents of the information segment.
	Page 54 lines 2-6.	An information segment can transmit any information that a processor can process. It can transmit compiled machine language code or assembly language code or higher level language programs, all of which are well known in the art.
	Page 386 lines 12-14.	...thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.
	and page 484 lines 7-18.	Receiving the specific program-instruction-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the PROGRAM.EXE information in said message at particular RAM and execute the information so loaded as a machine language job. At the station of Figs. 7 and 7F, receiving the program-instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
associated with at least one of a television program and a television commercial;	Page 470 lines 2-3,	...television program on cooking techniques that is called "Exotic Meals of India."
	and page 478 lines 23-26.	Then said studio ceases transmitting "Exotic Meals of India" programming for a so-called "commercial break" and commences transmitting the conventional television video and audio information of program unit

		Q.
(ii) a plurality of selective transfer devices, each operatively connected to said one of a broadcast transmitter and a cablecast transmitter for communicating said data;	Page 385 lines 24-31.	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal.
(iii) a data receiver for receiving information from at least one origination transmitter station;	Page 375 lines 3-6	The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
(iv) a control signal detector; and	Page 377 lines 20-25..	Causing said station apparatus to tune to said transmission causes those particular dedicated decoders of the signal processor systems, 71, of said stations that process continuously the inputted transmission of the distribution amplifiers, 63, to detect SPAM information embedded in the normal transmission location of said transmission and input said SPAM information to the computers, 73, of said stations.
(v) one of a controller and a second computer capable of controlling at least one	Page 326 lines 19-20.	Cable program controller and computer, 73, is the central automatic control unit for the transmission station.
of said plurality of selective transfer devices,	Page 385 lines 24-31.	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal.
said remote intermediate data transmitter station adapted to (i) detect the presence of at least	Page 377 line 26 to page 378 line 6.	Then the program originating studio at said network originating and control station, embeds in said normal transmission location and transmits a SPAM message that is addressed to ITS computers, 73, and

one control signal,		consists of a "01" header, a particular execution segment, appropriate meter-monitor information, padding bits as required, information segment information of the aforementioned intermediate generation set of Q, and an end of file signal. (Hereinafter, said message is called the "generate-set- information message (#10)".) Except for its meter-monitor information, said generate-set-information message (#10) is identical to the aforementioned generate-set-information message (#9). Transmitting said generate-set-information message (#10) causes said dedicated decoders to detect and input said message to the computers, 73, of said stations.
	Page 45 lines 25-33.	("ITS" refers, hereinafter, to intermediate transmission station apparatus, and "URS" refers to ultimate receiver station apparatus.) Examples of addressed apparatus include: ITS signal processors (in 71 in Fig. 6), ITS controller/computers (73 in Fig. 6),....
said at least one control signal operating at said remote intermediate data transmitter station to control communication of	Page 385 lines 7-16.	(Said message is called, hereinafter, the "transmit-and- execute-program-instruction-set message (#10)".) Receiving said message causes each of said computers, 73, to generate a second outbound SPAM message that includes information of the program instruction set at its program-set-to-transmit RAM memory and to cause said message to be transmitted to its field distribution system, 93. (Hereinafter, the second outbound SPAM message of any given one of said SPAM computers, 73, is called a "program- instruction-set message (#10)",...
said at least one instruct signal,	Page 386 lines 7-14.	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.
(ii) to control the communication of said	and page 385 lines 24-34.	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82,

at least one instruct signal in response to said detected at least one control signal, and		of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular program- instruction-set message (#10) of said computer, 73.
	Page 381 line 16 to page 382 line 5.	...said program originating studio embeds in the normal transmission location of said transmission and transmits a second SPAM message. Said second message is addressed to ITS computers, 73, and consists of a "01" header, a particular execution segment, appropriate meter-monitor information, padding bits as required, particular information segment instruction information, and an end of file signal. (Hereinafter, said message is called the "load-set-information message (#10)".) ... Receiving said message causes each of said computers, 73, to load said information segment instruction information at particular RAM. Then receiving said end of file signal causes each of said computers, 73, to execute the instruction information of so loaded as an compiled, machine language job. Executing said instruction information causes said computers, 73, each to load the information of said files, PROGRAM.EXE and DATA_OF.ITS, at particular program-set-to- transmit and data-set-to-transmit RAM memories of computer, 73,....
(iii) to deliver at said one of said broadcast transmitter and said cablecast transmitter said at least one instruct signal, said method comprising the steps of:	Fig. 6B with page 386 lines 7-14,	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of

		said station to said system, 93.
	and page 375 lines 3-6.	The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
(1) receiving said at least one instruct signal at said at least one origination transmitter station;	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 59 lines 29-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	Page 382 lines 15-27.	Then said program originating studio starts to transmit the conventional television programming of unit Q. Immediately after commencing to transmit said programming of Q, said studio embeds in the normal transmission location of the transmission of said programming and transmits a particular SPAM message is addressed to URS signal processors, 200, and that causes ultimate receiver stations to combine their microcomputers, 205, to the computer system of the transmission of said program originating studio. (Said message and the functioning that said message causes are described more fully below, and hereinafter, said message is called the "align-URS- microcomputers-205 message (#10)".)
	Page 383 lines 17-21,	In so doing, transmitting said control-invoking message (#10) causes said microcomputers, 205, to come under control of the computer system of the transmission of said studio.
	and page 382 line 30 to 383 line 8.	After an interval that is sufficient to allow apparatus at each ultimate receiver station so to combine, said studio embeds in said transmission and transmits a particular SPAM message whose execution segment is of the aforementioned pseudo command. Transmitting said message causes particular

		decoder apparatus at said ultimate receiver stations to detect an end of file signal and to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. (Said message and the functioning that said message causes are described more fully below, and hereinafter, said message is called the "synch-SPAM-reception message (#10)".) Thereafter, embedding and transmitting any given SPAM message in said transmission invokes a controlled function or functions at particular ones of said decoder apparatus.
(2) delivering said at least one instruct signal to at least one origination transmitter;	Page 383 lines 17-21, and page 382 line 30 to 383 line 8.	*See above.*
(3) receiving said at least one control signal at said at least one origination transmitter station; and	Page 385 lines 3-8.	Then said program originating studio embeds in the normal transmission location of said transmission and transmits a SPAM message that is addressed to ITS computers, 73, and that contains execution and meter-monitor segments. (Said message is called, hereinafter, the "transmit-and-execute-program-instruction-set message (#10)".)
(4) delivering said at least one control signal to said at least one origination transmitter before a specific time.	Page 385 lines 3-8. Page 386 lines 13-14.	*See above.* ...thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
A method of controlling a remote intermediate data transmitter station	Column 10 lines 14-28 with respect to column 19 lines 60-63.	The signal processing apparatus outlined in Figures 1, A, 2B, and 2C, and their variants as appropriate, can be used to automate the operations of an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programing or a cable system cablecasting many channels. They can be used in a facility

		transmitting television programing, radio programing, and making other electronic transmissions. FIGS. 3A, 3B and 3C illustrates one instance of such use. Figure 3 illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programing.
to communicate data	Column 11 lines 54-57.	controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing, and that they can be monitored.
to at least one receiver station,	Column 17 lines 49-53.	Figure 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of Figure 6 is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.
with said remote intermediate data transmitter station including (i) one of a broadcast transmitter and a cablecast transmitter	Column 10 lines 18-20	...an intermediate transmission point whether it be a broadcast station transmitting only a single channel of programing or a cable system cablecasting many channels.
	and lines 46-47.	...cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
for transmitting at least one instruct signal which is effective at said at least one receiver station to instruct	Column 19 lines 14-15,	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 45-49.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder,

		203, and transferred to microcomputer, 205.
one of a first computer and a processor	Column 19 lines 48-49.	These signals instruct microcomputer, 205, to generate several graphic video overlays,....
to store operating instructions	Column 19 lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command. Subsequently....
associated with at least one of a television program and a television commercial;	Column 19 line 45.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening,....
(ii) a plurality of selective transfer devices, each operatively connected to said one of a broadcast transmitter and a cablecast transmitter for communicating said data;	Column 10 lines 41-47.	by means of conventional switches (here matrix switch, 75), to one or more video recorder/players, 76 and 78, and/or to equipment that outputs them over various channels to the cable system's field distribution system, 93, which equipment includes here cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.
(iii) a data receiver for receiving information from	Column 10 lines 61-66.	Incoming programing transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. They are fed along the conventional paths described above. At distribution amplifiers, 63 through 70, each incoming feed is split into two paths.
at least one origination transmitter station;	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission.
(iv) a control signal detector; and	Column 11 lines 3-5.	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals....
(v) one of a controller and a second computer capable of controlling at least one of said plurality of selective transfer	Column 11 lines 15-17, and lines 44-46.	Cable program controller and computer, 73, is the central automatic control unit for the transmission facility. Controller/computer, 73, has means for communicating control information with

devices,		matrix switch, 75, and video recorder/players, 76 and 78.
said remote intermediate data transmitter station adapted to (i) detect the presence of at least one control signal,	Column 11 lines 3-5,	Signal processor, 71, has means, described above, to identify and separate the instruction and information signals from their associated programing....
	with lines 38-39.	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74,....
said at least one control signal operating at said remote intermediate data transmitter station to control communication	Column 11 lines 38-46,	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programing. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.
	and lines 50-57.	For example, if controller/computer, 73, determines that programing incoming via receiver, 53, should be transmitted immediately to the field distribution system, 93, via cable channel modulator, 87, controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
of said at least one instruct signal,	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing, and that they can be monitored.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programing with the programing schedule....
	Column 19 lines 14-15.	...to pass all program and channel identifiers on all programing being cablecast on the

		multi-channel system.
(ii) to control the communication of said at least one instruct signal in response to said detected at least one control signal, and	Column 11 lines 54-57.	...transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
(iii) to deliver at said one of said broadcast transmitter and said cablecast transmitter said at least one instruct signal, said method comprising the steps of:	Column 19 lines 14-15,	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	lines 20-23,	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.
	and lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command. Subsequently,...
(1) receiving said at least one instruct signal at said at least one origination transmitter station;	Column 19 lines 60-63,	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission.
	with lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command. Subsequently,...
(2) delivering said at least one instruct signal to at least one origination transmitter;	Column 19 lines 60-63, with lines 45-53.	See above.
(3) receiving said at least one control	Column 19 lines 60-63,	See above citation.

signal at said at least one origination transmitter station; and	with column 11 lines 38-39.	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74,....
(4) delivering said at least one control signal to said at least one origination transmitter before a specific time.	Column 19 lines 60-63 and line 45. Column 19 lines 20-23.	*See above citations.* Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.

8. Claim 9

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 8, further comprising the step of embedding a specific one of said at least one control signal in one of	Page 381 line 11 to page 382 line 14.	Shortly before commencing to transmit the television programming of unit Q, at a time when all controlled intermediate transmission stations are receiving and retransmitting said network transmission (which the station of Fig. 6 and said second station each receives at a receiver, 53, and transmits via a modulator, 83), said program originating studio embeds in the normal transmission location of said transmission and transmits a second SPAM message. Said second message is addressed to ITS computers, 73, and consists of a "01" header, a particular execution segment, appropriate meter-monitor information, padding bits as required, particular information segment instruction information, and an end of file signal. (Hereinafter, said message is called the "load-set-information message (#10)".) Transmitting said message causes the decoders of the signal processing systems, 71, of said stations that receive programming transmissions from the distribution amplifiers, 63, to detect and input said message to the computers, 73, of said stations. Receiving said message causes each of said computers, 73, to load said information segment instruction information at particular

		RAM. Then receiving said end of file signal causes each of said computers, 73, to execute the instruction information of so loaded as an compiled, machine language job. Executing said instruction information causes said computers, 73, each to load the information of said files, PROGRAM.EXE and DATA_OF.ITS, at particular program-set-to- transmit and data-set-to-transmit RAM memories of computer, 73, and each to cause a generator, 82, to cease embedding any other signal information in the normal transmission location and to transmit information of a SPAM end of file signal. (Said other signal information may include, for example, teletext information, and in so causing said generators, 82, to cease embedding said other information--for example, said teletext--transmitting said message causes pluralities of ultimate receiver stations that are subscriber stations of said intermediate transmission stations to cease receiving said other information--for example, said teletext.)
(i) said at least one instruct signal and	Page 381 lines 11-24. Page 86 lines 12-14.	*See above.* (Hereinafter, the preferred normal location for transmitting signals in any given communication medium is called, the "normal transmission location".)
(ii) an information transmission containing said at least one instruct signal	Page 381 lines 11-14.	*See above.*
before transmitting said at least one instruct signal to said remote intermediate data transmitter station.	Page 382 lines 15-27.	Then said program originating studio starts to transmit the conventional television programming of unit Q. Immediately after commencing to transmit said programming of Q, said studio embeds in the normal transmission location of the transmission of said programming and transmits a particular SPAM message is addressed to URS signal processors, 200, and that causes ultimate receiver stations to combine their microcomputers, 205, to the computer system of the transmission of said program originating studio. (Said message and the functioning that said message causes are described more fully below, and

		hereinafter, said message is called the "align-URS- microcomputers-205 message (#10)".)

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 8, further comprising the step of embedding a specific one of said at least one control signal in one of	Column 19 lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing, and that they can be monitored.
	Column 11 lines 38-46.	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programing. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.
(i) said at least one instruct signal and	Column 19 lines 14-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
(ii) an information transmission containing said at least one instruct signal	Column 19 lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.
before transmitting said at least one instruct signal to said remote intermediate data transmitter	Column 19 lines 20-23.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.

station.		

9. Claim 10

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 8, wherein said specific time is a scheduled time of transmitting	Page 366 lines 19-20.	Subsequently, at the scheduled time of the playing of Q, the station of Fig. 6 is transmitting via modulator, 83,
one of said at least one instruct signal and information associated with said at least one instruct signal from said remote intermediate data transmitter station,	Page 367 line 25 to page 368 line 7.	Causing recorder, 76, to play causes recorder, 76, to transmit programming of Q, via matrix switch, 75, and modulator, 83, to field distribution system, 93, and also causes recorder, 76, to input the programming of Q to decoder, 77. Immediately after commencing to transmit said programming of Q, recorder, 76, plays and transmits three SPAM messages that are embedded in the prerecorded programming of Q. The first message is addressed to URS signal processors, 200, and causes subscriber stations that are tuned to the channel of transmission of said modulator, 83, to combine their microcomputers, 205, to the computer system of said transmission, which transmission is originated by said recorder, 76. (Said message and the functioning that said message causes are described more fully below, and hereinafter, said message is called the "align-URS- microcomputers-205 message (#9)".)
and said at least one control signal is effective at said remote intermediate data transmitter station to control said at least one of said plurality of selective transfer devices at different times.	Page 358 line 26 to page 360 line 1.	At the aforementioned interval Q time prior to the scheduled playing of Q, particular preprogrammed preplay-and- generate instructions cause computer, 73, to commence said program instruction set generation. Said instructions cause computer, 73, to cause matrix switch, 75, to switch the input from recorder, 76, to no output; to cause recorder, 76, to position the start of unit Q at its play head; to cause decoder, 77, to commence detecting signals on all video lines from the beginning of the normal transmission pattern to the end of the last detectable line of the full video frame; then to cause recorder, 76, to commence

		playing which causes recorder, 76, to transmit and decoder, 77, to detect a particular SPAM message. (Hereinafter, said message is called the "generate-set-information message (#9)".) Said message is addressed to ITS computers, 73, and contains a particular execution segment, appropriate meter-monitor information, padding bits as required, an information segment whose information is the intermediate generation set of Q, and an end of file signal. (Hereinafter, the intermediate generation set that causes any given intermediate transmission station to generate a program instruction set of an instance of the transmission of the programming of program unit Q is called the "intermediate generation set of Q".) Detecting said message causes decoder, 77, to transmit said message to computer, 73, and receiving said message at computer, 73, causes particular SPAM decoder apparatus of computer, 73, (which apparatus is analogous to SPAM- controller, 205C, at microcomputer, 205, above and is not distinguished from computer, 73, hereinafter) to execute particular controlled functions. In the fashion of the first message of the "Wall Street Week" example at microcomputer, 205, computer, 73, is caused to load information of said intermediate generation set at particular RAM. Then receiving the end of file signal that ends said message causes computer, 73, to execute particular additional instructions of said controlled functions. Executing said instructions, causes computer, 73, to cause recorder, 76, to cease playing and position the start of the unit Q conventional television programming at the play head of recorder, 76; to cause decoder, 77, to commence detecting information in the normal transmission location alone; to cause stripper, 81, and generator, 82, to prepare to commence stripping and embedding information, respectively, in the normal transmission location; and to execute the information of said intermediate generation set as a compiled, machine language job.
	Page 369 lines 3-8;	Causing recorder, 76, to play unit Q causes the decoder, 77, of the station of Fig. 6 then to detect a series of SPAM messages that are

		embedded in the programming of Q and are addressed to ITS computers, 73. Detecting said messages causes decoder, 77, to transfer said messages to computer, 73.
	and lines 23-30.	Receiving said transmit-data-module-set message (#9) causes computer, 73, to generate a particular first outbound SPAM message that includes information of the aforementioned data file, DATA_OF.ITS, whose information constitutes a complete instance of a data module set of Q and to cause said message to be embedded in the transmission of the programming of Q and transmitted to field distribution system, 93, in the following fashion.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 8, wherein said specific time is a scheduled time of transmitting one of said at least one instruct signal and information associated with said at least one instruct signal from said remote intermediate data transmitter station,	Column 11 lines 21-31,	Such input information might include the cable television system's complete programing schedule, with each discrete unit of programing identified with a unique program code (which in the case of advertising might be a purchase order number). Such input information might also indicate when and where the cable head end facility should expect to receive the programing. Such input information might also indicate when and on which channel or channels the head end facility should transmit each program unit to cable field distribution system, 93.
	lines 38-46,	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programing. Controller/computer, 73, has means for communicating control information with matrix switch, 75, and video recorder/players, 76 and 78.
and said at least one control signal is effective at said remote intermediate	and lines 57-65.	Similarly, if controller/computer, 73, determines that incoming programing should be recorded for delayed transmission, controller/ computer, 73, selects a video

data transmitter station to control said at least one of said plurality of selective transfer devices at different times.		recorder/player, 76 or 78, in a predetermined fashion, to record the incoming programing, instructs matrix switch, 75, to transfer the programing to the designated recorder/player, 76/78, and instructs the recorder/player, 76 or 78, to turn on and record the programing.
	Column 11 line 57 to column 12 line 8.	*See above citation, plus:* Recorder/players, 76 and 78, can communicate programing with each other through matrix switch, 75. If controller/ computer, 73, determines at any time that it is necessary to reorganize the order in which programing units are stored on either recorder/player or on both, controller/computer, 73, can use techniques for reorganizing files stored on multidisk units, which techniques are well known to computer operators, and order the execution of such techniques by passing appropriate instructions to of matrix switch, 75, and recorder/ players, 76 and 78.
	Column 12 lines 27-35.	Decoders, 77 and 79, inform controller/computer, 73, what specific programing is loaded on recorder/players, 76 and 78 respectively, and what signals it contains. (Among other signals, a program unit could contain signals that would inform controller/computer, 73, of the distance to the beginning and end of the program unit which signals would facilitate operation of recorder/ players such as 76 and 78.)
	Column 16 lines 26-29.	...by locating the identifier signals in the audio and/or video and/or other parts of the programing that are conventionally recorded by, for example, conventional video cassette recorders,....

10. Claim 11

A transmitter station (e.g., a cable head end) controls at least one of a plurality of receiver stations (e.g., television viewer stations), each of which (i) includes a mass medium program receiver (e.g., a television receiver), a signal detector, a computer or processor, (ii) is adapted to detect a control signal that

selects or executes operating instructions associated with the mass medium programming that completes or supplements a mass medium program, and (iii) is adapted to input a subscriber reaction to an offer communicated in the mass medium program. The transmitter station receives and delivers to a transmitter an instruct signal which is effective at the at least one receiver station to store the operating instructions, (e.g., it loads a computer program). The transmitter station receives and delivers to the transmitter (i) an identifier that ***designates*** (WEBSTER'S New Collegiate Dictionary, copyright 1977, defines this term as "1 a : to point out the location of") one of the instruct signal and the subscriber reaction and (ii) the control signal (e.g., a portion of a message stream which enables selection or execution of a portion of the computer program.) The transmitter station transmits the instruct signal, the identifier, and the control signal.

With regard to the functioning of the transmitter station, support for claim 8 is found at pages 374-390 of the specification. With regard to the corresponding functionality of the receiver station, support is found at pages 468-516. (As explained above in section **Error! Reference source not found.**, the correspondence between these two passages is clear through the use of a narrative sequence in each passage which uses carefully defined message names and processing functions associated with more than thirteen messages.) Claim 11 is also supported independently at pages 354-374, although not shown in the table below. Claim 11 finds support in Patent No. 4,694,490, from which priority is claimed, in the passages cited below.

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language

A method of controlling at least one of a plurality of receiver stations,	Page 374 line 32 to	In example #10, a particular program originating studio transmits the commercial of program unit Q in a network transmission and controls a plurality of intermediate transmission stations each of which controls, in turn, a plurality of subscriber stations that are ultimate receiver stations. The station of Fig. 6 is one intermediate transmission station controlled by said studio. The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83. The program unit Q of example #10 is identical to the program unit Q of example #9, and each intermediate transmission station must generate transmit its own, station specific program instruction set and data module set information that contains its own, station specific formula- and-item-of-this-transmission information.
	page 375 line 10, with page 390 lines 30-31,	Fig. 7 exemplifies one embodiment of an ultimate receiver station;
	and page 470 lines 9-11.	At the station of Fig. 7 and 7F (which station is a subscriber station of the intermediate station of Fig. 6), in the fashions described above,
each of which (i) includes a mass medium program receiver for receiving a mass medium program which comprises audio,	Page 470 lines 19-21.	...and to display the television information of said transmission (that is, information of said audio and video) at monitor, 202M.
a signal detector,	Page 481 lines 2-12.	Receiving said message at the station of Figs. 7 and 7F causes decoder, 203, to detect the end of file signal of said message and to process the next received SPAM information as information of the header of a SPAM message, thereby causing said decoder, 203, to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. In so doing, receiving said message causes decoder apparatus of the station of Figs. 7 and 7F to commence executing controlled functions in response to SPAM messages

		transmitted by said program originating studio.
and at least one of a computer and a processor,	Page 479 lines 3-18.	...to cause a communications link to be established that links said decoder, 282, via matrix switch, 259, with the controller, 20, of signal processor, 200; to transfer said message to controller, 20; and to transfer particular preprogrammed source mark information that identifies said decoder, 282, as the local source inputting said message to controller, 20. (Decoder, 145, is not preprogrammed with controlled-function-invoking information that matches the execution segment information of said message, and decoder, 145, discards all information of said message.) Receiving said message causes controller, 20, to combine microcomputer, 205, to the computer system of said program originating studio and to cause the video and audio output transmissions of microcomputer, 205, to be inputted to monitor, 202M.
	Page 45 line 21 to page 46 line 2.	Execution segment information includes the subscriber station apparatus that the command of said segment addresses and the controlled functions said apparatus is to perform. ("ITS" refers, hereinafter, to intermediate transmission station apparatus, and "URS" refers to ultimate receiver station apparatus.) Examples of addressed apparatus include: ITS signal processors (in 71 in Fig. 6), ITS controller/computers (73 in Fig. 6), URS signal processors (200 in Fig. 7), URS microcomputers (205 in Fig. 7),
	Page 46 lines 8-11.	Examples of controlled functions include: Load and run the contents of the information segment.
(ii) is adapted to detect the presence of at least	Page 481 lines 2-12.	Receiving said message at the station of Figs. 7 and 7F causes decoder, 203, to detect the end of file signal of said message and to process the next received SPAM information as information of the header of a SPAM message, thereby causing said decoder, 203, to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. In so

		doing, receiving said message causes decoder apparatus of the station of Figs. 7 and 7F to commence executing controlled functions in response to SPAM messages transmitted by said program originating studio.
one control signal that does at least one of	Page 59 lines 28-33.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
(a) selects	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
and (b) executes operating instructions associated with mass medium programming,	Page 24 lines 14-16.	(Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.")
	Page 484 lines 12-18.	*See immediately above.*
said mass medium programming one of completing and	Page 492 lines 26-30.	causing the emission of sound of said audio information, and the subscriber of said station can hear said announcer's voice saying: "forty-six".
	Page 491 lines 30-35.	Said studio then transmits audio information of the announcer saying: "Super Discount Supermarkets makes this offer--today only--at cost, and this offer represents a saving to you of over."
	Page 493 lines 16-21.	Then after an interval that is long enough for each subscriber station to emit sound of its specific audio RAM information, said studio transmits audio information of the announcer saying: "percent."
	Page 496 lines 12-27.	At printer, 221, the printed so-called "hard copy" of said offer and coupon information emerges as: (*see coupon*).

supplementing said mass medium program,	Page 494 lines 30-34.	said studio transmits audio information of an announcer saying, "To confirm this very special limited offer to you in writing, we are now printing, at your printer ..."
and (iii) is adapted to input a subscriber reaction to an offer communicated in said mass medium program, said method comprising the steps of:	Page 492 lines 12-23.	Receiving said 2nd commence-outputting message (#10) causes each subscriber station that has completed the generation of first audio image information at audio RAM to combine its specific image information to the conventional audio information transmitted by said studio and to emit sound of its combined specific audio information and its received conventional audio information at its specific monitor, 202M. At the station of Fig. 7 and 7F, decoder, 203, detects the information of said message, and receiving said 2nd commence-outputting message (#10) causes decoder, 203, to execute "SOUND ON" at the microcomputer, 205 of said station.
	Page 491 lines 30-35.	*See above.*
(1) receiving an instruct signal at	Page 386 lines 7-9.	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82,....
	Page 385 line 24 page 386 line 3..	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of a ... header; ... any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular program- instruction-set message (#10) of said computer, 73. (Receiving said message causes the apparatus of the
a transmitter station;	"intermediate station"	intermediate station of Fig. 6 to transmit the program instruction set of Q.1 in the program-instruction-set message (#10) of said station....
(2) delivering said instruct signal to a transmitter at said transmitter station,	Page 386 lines 9-14.	...to embed said information in the normal transmission location of the programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of

		said station to said system, 93.
	Page 484 lines 1-6.	Then said studio transmits said transmit-and-execute- program-instruction -set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific program-instruction-set message (#10), as described above.
said instruct signal being effective at said at least one of said plurality of receiver stations to store said operating instructions;	Page 484 lines 12-18.	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).
(3) receiving, at said transmitter station,	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 387 lines 19-31.	Subsequently, said program originating studio embeds in the normal transmission location of said network transmission and transmits a further series of messages that are addressed to URS microcomputers, 205, and that are described more fully below. (Hereinafter, said messages are called [in the order in which said messages are transmitted at said studio]: the "1st commence-outputting message (#10)", the "2nd commence-outputting message (#10)", the "3rd commence-outputting message (#10)", the "1st cease-outputting message (#10)", the "4th commence-outputting message (#10)", the "5th commence-outputting message (#10)", the "6th commence-outputting message (#10)", and the "2nd cease- outputting message (#10)".)
an identifier	Page 492 lines 1-5.	Then said program originating studio embeds and transmits said 2nd commence-outputting message (#10). Said message consists of a "00" header; particular audio-overlay execution segment information that is addressed to URS microcomputers, 205

that designates one of said instruct signal	Page 493 lines 23-29.	Receiving said 2nd commence-outputting message (#10) causes each subscriber station that outputs audio information in this fashion, immediately after so transmitting one instance of its specific information at audio RAM, to continue executing instructions of its specific program instruction set at the next instruction following the aforementioned pause.
and said subscriber reaction to	Page 493 lines 12-23.	Receiving said 2nd commence-outputting message (#10) causes each subscriber station that has completed the generation of first audio image information at audio RAM to combine its specific image information to the conventional audio information transmitted by said studio and to emit sound of its combined specific audio information and its received conventional audio information at its specific monitor, 202M. At the station of Fig. 7 and 7F, decoder, 203, detects the information of said message, and receiving said 2nd commence-outputting message (#10) causes decoder, 203, to execute "SOUND ON" at the microcomputer, 205 of said station.
said offer communicated in said mass medium program;	Page 491 lines 30-35.	Said studio then transmits audio information of the announcer saying: "Super Discount Supermarkets makes this offer--today only--at cost, and this offer represents a saving to you of over."
(4) receiving said at least one control signal at said transmitter station;	Page 375 lines 4-6, with page 382 line 28 to page 383 line 8.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83. After an interval that is sufficient to allow apparatus at each ultimate receiver station so to combine, said studio embeds in said transmission and transmits a particular SPAM message whose execution segment is of the aforementioned pseudo command. Transmitting said message causes particular decoder apparatus at said ultimate receiver stations to detect an end of file signal and to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. (Said message and the functioning that said message causes are described more fully

		below, and hereinafter, said message is called the "synch- SPAM-reception message (#10)".) Thereafter, embedding and transmitting any given SPAM message in said transmission invokes a controlled function or functions at particular ones of said decoder apparatus.
	Page 480 line 26 to page 481 lines 21.	After an interval that is sufficient to allow apparatus at each subscriber station so to combine and interconnect, said studio transmits said synch-SPAM-reception message (#10), embedded in the transmission of said programming. Said message consists of a "01" header, information of the aforementioned pseudo-command execution segment, appropriate meter-monitor information that includes the "program unit identification code" information of said programming of Q, any required padding bits, an information segment that contains no binary information, and information of a SPAM end of file signal. Receiving said message at the station of Figs. 7 and 7F causes decoder, 203, to detect the end of file signal of said message and to process the next received SPAM information as information of the header of a SPAM message, thereby causing said decoder, 203, to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. In so doing, receiving said message causes decoder apparatus of the station of Figs. 7 and 7F to commence executing controlled functions in response to SPAM messages transmitted by said program originating studio. (In the fashions described above, receiving said message at decoders, 145 and 282, causes said said decoders, 145 and 282, to process the meter-monitor information of said message and to transmit meter-monitor information to the onboard controller, 14A, of signal processor, 200, and causes said onboard controller, 14A, to initiate signal record information of said programming of Q and process in the fashions described above that include transferring recorded signal record information to one or more remote auditing stations.)
(5) delivering said identifier,	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits

		said transmission immediately via modulator, 83.
	Page 387 lines 19-31.	Subsequently, said program originating studio embeds in the normal transmission location of said network transmission and transmits a further series of messages that are addressed to URS microcomputers, 205, and that are described more fully below. (Hereinafter, said messages are called [in the order in which said messages are transmitted at said studio]: the "1st commence-outputting message (#10)", the "2nd commence-outputting message (#10)", the "3rd commence-outputting message (#10)", the "1st cease-outputting message (#10)", the "4th commence-outputting message (#10)", the "5th commence-outputting message (#10)", the "6th commence-outputting message (#10)", and the "2nd cease- outputting message (#10)".)
and said at least one control signal to said transmitter at said transmitter station; and	Page 382 line 28 to page 383 line 8.	After an interval that is sufficient to allow apparatus at each ultimate receiver station so to combine, said studio embeds in said transmission and transmits a particular SPAM message whose execution segment is of the aforementioned pseudo command. Transmitting said message causes particular decoder apparatus at said ultimate receiver stations to detect an end of file signal and to commence identifying and processing the individual SPAM messages of the SPAM information subsequently embedded in the transmission of the programming of Q. (Said message and the functioning that said message causes are described more fully below, and hereinafter, said message is called the "synch- SPAM-reception message (#10)".) Thereafter, embedding and transmitting any given SPAM message in said transmission invokes a controlled function or functions at particular ones of said decoder apparatus.
(6) transmitting said instruct signal, said identifier,	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 386 lines 9-14.	embed said information in the normal transmission location of the programming of Q transmission being transmitted via said

		generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93
and said at least one control signal from said transmitter station.	Page 382 line 28 to page 383 line 8.	*See above.*
	Page 387 lines 19-31.	*See above.*

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
A method of controlling at least one of a plurality of receiver stations,	Column 17 lines 34-53.	Methods for Governing or Influencing the Operation of Equipment that is External to Conventional Television and Radio Sets by Passing Instruction and Information Signals that are Embedded in Television and Radio Programing Transmissions to Such External Equipment Signal processor apparatus have the ability to identify instruction and information signals in one or more inputted television and radio programing transmissions, identify and discriminate among one or more pieces of external equipment to which such signals are addressed, and transfer such signals to such equipment as directed. This permits many valuable techniques for facilitating the operation of such external equipment. Figure 6 illustrates one possible configuration of equipment in a home or office or other television and/or radio receiving site. Consideration of Figure 6 is facilitated by consideration, first, of individual examples of the types of co-ordinated presentations that the signal apparatus and methods described here can permit.
each of which (i)	Column 3 lines 48-51.	Another method has application at receiver sites such as private homes or public places like theaters, hotels, brokerage offices, etc., whether commercial establishments or not.
includes a mass medium program receiver for receiving a mass medium program which	Column 19 lines 1-4.	In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programing of interest to play or record.

comprises audio,		
a signal detector,	Column 18 lines 14-16.	TV signal decoder, 203, detects signals in the programing transmission on the channel which signals it transfers to monitor or processor, 204.
and at least one of a computer and a processor,	column 17 line 62 to column 18 line 4.	Signal processor, 200, is always operating and monitors all incoming channels. It can convey such signals to microcomputer, 205, whenever it receives them. TV signal decoder, 203, can also identify such signals but only in the one TV channel transferred by box, 201, to TV set, 202, and then only when TV set, 202, is on and operating. Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
(ii) is adapted to detect the presence of at least one control signal that does at least one of (a) selects and (b) executes operating instructions associated with mass medium programming,	Column 18 lines 47-49.	In this example, microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.
	Column 19 lines 14-15,	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	with lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."
	Column 19 lines 63 to column 20 line 2.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

	Column 19 lines 45-53.	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
said mass medium programming one of completing and	Column 19 line 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.
supplementing said mass medium program,	Column 19 lines 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance...
	Column 19 lines 59-60.	Then the host says, "And here is what your portfolio did."
and (iii) is adapted to input a subscriber reaction to	Column 19 lines 63-60.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.
an offer communicated in said mass medium program, said method comprising the steps of:	Subscriber responds to the offer and causes microcomputer 205 to be "programed" [sic]; *see* column 18 lines 46-49.	In this example, microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and about the industries they are in.
(1) receiving an instruct signal at a transmitter station;	Column 10 lines 24-28.	FIGS. 3A, 3B and 3C illustrates one instance of such use. Figure 3 illustrates the use of Signal Processing Apparatus and Methods at a cable television system "head end" transmission facility that cablecasts several channels of television programing.
	Column 19 lines 60-63.	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission.
	Column 19 lines 42-44.	Microcomputer, 205, is preprogramed to

		respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.
	Column 10 lines 61-63.	Incoming programing transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.
	Column 11 lines 38-42.	By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74, and/or from a remote site via network, 98, controller/computer, 73, can determine when and on what channel or channels the head end facility should transmit the programing.
(2) delivering said instruct signal to a transmitter at said transmitter station,	Column 11 lines 54-57.	...controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing, and that they can be monitored.
	Column 19 lines 13-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
said instruct signal being effective at said at least one of said plurality of receiver stations to store said operating instructions;	Column 19 lines 42-53.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, ... upon command. Subsequently...
(3) receiving, at said transmitter station, an identifier	Column 10 lines 61-63.	Incoming programing transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62.
	Column 4 lines 5-13.	These techniques employ signals embedded in programs. The advantage of such embedded

		signals, as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing, and that they can be monitored.
	Column 11 lines 38-39.	By comparing identification signals on the incoming programing with the programing schedule....
	Column 19 lines 14-15.	all program and channel identifiers on all programing being cablecast on the multi-channel system
that designates one of	Column 18 lines 1-4.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
said instruct signal and	Column 19 lines 64-67.	This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204.
	Column 19 lines 48-53.	These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
said subscriber reaction to said offer communicated in said mass medium program;	Column 18 lines 1-4.	Decoder, 203, transfers all received signals to processor or monitor, 204, which identifies the signals as addressed to microcomputer, 205, and transfers them to microcomputer, 205.
	Column 19 lines 46-48;	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.
	and lines 59-64.	Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated in the television studio originating the programing and is transmitted

		in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205.
(4) receiving said at least one control signal at said transmitter station;	Column 10 lines 61-63. Column 11 lines 38-39.	Incoming programing transmissions are received at the relevant receiver points, antennas, 50, 57, and 60, and other means, 62. By comparing identification signals on the incoming programing with the programing schedule received earlier from local input, 74,....
(5) delivering said identifier, and said at least one control signal to said transmitter at said transmitter station; and	Column 11 lines 54-57. Column 4 lines 5-13.	... controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87. These techniques employ signals embedded in programs. The advantage of such embedded signals, as compared to header and trailer signals, is that they cannot become separated inadvertantly from the programing and, thereby, inhibit automatic processing, that they can convey signals to equipment that must switch manners or modes of operation during transmissions of individual units of programing, and that they can be monitored.
(6) transmitting said instruct signal, said identifier, and said at least one control signal from said transmitter station.	Column 19 lines 13-29. Column 19 lines 45-53.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system. Signal processor, 200, receives this instruction from microcomputer, 205, at its processor or monitor, 12, which reacts, in a predetermined fashion by passing also externally to microcomputer, 205, all signals that it passes to buffer/ comparator, 14. Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week." When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder,

		203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
	Column 19 line 60 to column 20 line 2.	At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

11. Claim 12

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein at least one of said at least one control signal and said identifier is embedded in one of a television signal and	Page 324 line 26.	TV receivers, 53, 54, 55, and 56.
	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.
	Page 382 lines 15-21.	Then said program originating studio starts to transmit the conventional television programming of unit Q. Immediately after commencing to transmit said programming of Q, said studio embeds in the normal transmission location of the transmission of said programming and transmits a particular SPAM message is addressed to URS signal processors, 200,
	Page 386 line 7-20.	Receiving the information of the particular program- instruction-set message (#10) of the computer, 73, of its station causes a generator, 82, to embed said information in the normal transmission location of the

		programming of Q transmission being transmitted via said generator, 82, to the field distribution system, 93, of said station, thereby transmitting the particular program-instruction-set message (#10) of said station to said system, 93. (After transmitting the aforementioned transmit-data- module-set message (#10) and before transmitting a particular commence-outputting message (#10) that is discussed more fully below, said program originating studio embeds and transmits other SPAM messages that are addressed to URS microcomputers, 205.
a signal containing a television program.	Page 325 lines 1-4.	...apparatus that outputs said transmissions over various channels to the cable system's field distribution system, 93, which apparatus includes cable channel modulators, 83, 87, and 91, and channel combining and multiplexing system, 92.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein at least one of said at least one control signal and said identifier is embedded in one of a **television signal** and a **signal containing a television program.**	Column 19 lines 14-15,	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	lines 20-23,	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.
	Column 19 lines 13-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 42-44.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission.

12. Claim 13

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein said at least one control signal is effective to output a viewer order for one of a designated product and a designated service, said method further comprising the steps of:	Page 472 lines 13-23.	Receiving said message causes controller, 20, to load and execute said check-for-entered-information-and-process instructions, and executing said instructions causes controller, 20, to determine that TV567# information exists at said last-local-input-# memory and to cause an instance of particular covert control information (which is preprogrammed in said instructions) to be placed at particular control- function-invoking information memory of the controller, 39, of decoder, 145, and also at particular control-function-invoking information memory of the controller, 39, of decoder, 203.
	Page 471 lines 14-21.	Each subscriber--in particular, the subscriber of the station of Figs. 7 and 7F, said second subscriber, and said third subscriber--enters TV567#, in a fashion well known in the art, at the keyboard of the specific local input, 225, of his own station which causes said input, 225, to transmit a particular preprogrammed process-local-input instruction and said TV567# information to the controller, 20, of the signal processor, 200, of said station.
	Page 473 lines 5-8.	...programming and transmits a particular second SPAM message that consists of an "01" header, particular execution segment information that is identical to said covert control information,....
	Page 474 lines 2-8.	Executing said generate-recipe-and-shopping-list instructions causes microcomputer, 205, to generate information of the specific fish curry recipe and fish curry shopping list of the family of the subscriber of the station of Figs. 7 and 7F; to cause said recipe and shopping list to be printed at printer, 221; and to retain information of said shopping list at particular memory.
communicating to said transmitter information which is effective at said at least one of said	Page 375 lines 4-6.	The station of Fig. 6 receives said network transmission at receiver, 53, and retransmits said transmission immediately via modulator, 83.

plurality of receiver stations to one of select and assemble specific information to communicate to a remote data collection site; and	Page 473 lines 3-13. Page 473 line 29 to page 474 line 1.	One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of an "01" header, particular execution segment information that is identical to said covert control information, appropriate meter-monitor information including unit code identification information that identifies the programming of the information segment of said message, padding bits as required, information segment of particular generate-recipe-and-shopping-list instructions, and an end of file signal. Receiving said message causes the controller, 39, of decoder, 203, to load and execute said generate-recipe-and- shopping-list instructions at microcomputer, 205, and to transfer particular meter-monitor information to the buffer/comparator, 14, of signal processor, 200, causing said buffer/comparator, 14, to increment the information of said signal record of meter information in the fashion described above.
transmitting said information to said at least one of said plurality of receiver stations.	Page 375 lines 4-6. Page 473 lines 2-13.	*See above.* One minute later, said program originating studio embeds in the transmission of said "Exotic Meals of India" programming and transmits a particular second SPAM message that consists of an "01" header, particular execution segment information that is identical to said covert control information, appropriate meter-monitor information including unit code identification information that identifies the programming of the information segment of said message, padding bits as required, information segment of particular generate-recipe-and-shopping-list instructions, and an end of file signal.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein said at least one control signal	Column 18 lines 47-48.	In this example, microprocessor, 205, is programed to hold a portfolio of stocks and to receive news about these particular stocks and

is effective to output a viewer order for one of a designated product and	Column 18 lines 63-68.	about the industries they are in. In a predetermined fashion, either microcomputer, 205, or signal processor, 200, instructs tuner, 223, to set cable converter box, 222, to the proper channel, and microcomputer, 200, may record the information in memory or transfer it to printer, 221, for printing.
a designated service, said method further comprising the steps of:	Column 18 line 63 to column 19 line 4.	*See above, plus...* In the same fashion, microcomputer, 205, may also instruct signal processor, 200, to monitor single or multiple television channels and/or radio channels for programing of interest to play or record.
	Column 19 lines 20-29.	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X. Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."
communicating to said transmitter information which is effective at said at least one of said plurality of receiver stations to one of select and assemble specific information to communicate to a remote data collection site; and	Column 11 lines 54-57	...controller/computer, 73, instructs matrix switch, 75, to configure its switches so as to transfer programing transmissions inputted from TV receiver, 53, to the output that leads to modulator, 87.
	Column 19 lines 14-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	Column 18 lines 50-56.	Several separate news services transmit news on different channels carried on the multi-channel cable transmission to converter boxes, 222 and 201, and to signal processor, 200. The news services preceed each news transmission with a unique signal that uniquely identifies the company or companies to which the news item refers and/or the industries.
	See also: column 9 line 68 to column 10 line 2; column 15 line 57 to column 16 line 24;	

	column 16 line 51 to column 17 line 9; column 8 lines 16-19 and lines 46-55.	
transmitting said information to said at least one of said plurality of receiver stations.	Column 18 lines 49-56. Column 19 lines 14-15.	*See above.* *See above.*

13. Claim 14

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein said at least one control signal comprises at least one downloadable processor instruction.	Page 385 line 24 to page 386 line 6.	Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of a "01" header; information of a particular SPAM execution segment that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular program- instruction-set message (#10) of said computer, 73. (Receiving said message causes the apparatus of the intermediate station of Fig. 6 to transmit the program instruction set of Q.1 in the program-instruction-set message (#10) of said station and causes the apparatus of said second intermediate station to transmit the program instruction set of Q.2 in the program-instruction-set message (#10) of said second station.)
	Page 484 lines 1-18.	Then said studio transmits said transmit-and-execute-program-instruction-set message (#10), causing each intermediate transmission station, including the station of Fig. 6 and said second intermediate transmission station, to transmit its specific program-instruction-set message (#10), as

		described above. Receiving the specific program-instruction-set message (#10) of its intermediate transmission station causes each ultimate receiver station to record one instance of the PROGRAM.EXE information in said message at particular RAM and execute the information so loaded as a machine language job. At the station of Figs. 7 and 7F, receiving the program-instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load and execute at microcomputer, 205, the information segment of said message (which is the program instruction set of Q.1 and is the output file, PROGRAM.EXE, of said station).

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein said at least one control signal comprises at least one downloadable processor instruction.	Column 19 lines 14-15,	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	lines 20-23	Analyzing these identifier signals in a predetermined fashion, microcomputer, 205, determines that "Wall Street Week" is being televised on channel X.
	and lines 42-49.	Microcomputer, 205, is preprogramed to respond in a predetermined fashion to instruction signals embedded in the "Wall Street Week" programing transmission. When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205.

14. Claim 15

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein said mass medium program includes text.	Page 507 lines 5-7.	Said studio transmits video information of said person pointing to the upper left hand corner of the video screen, and the image of "TV568*" appears in said corner.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 11, wherein said mass medium program includes text.	Column 19 lines 53-59.	Subsequently in the program, the host says, "Here is what the Dow Jones Industrials did is the past week," and a studio generated graphic is pictured. The host then says, "Here is what the broader NASDAQ index did in the week past," and a studio generated graphic overlay is displayed on top of the first graphic.

15. Claim 16

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-tune signal that causes a receiver to receive a selected transmission.	Page 291 lines 9-20.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of a "01" header, execution segment information that matches said enable-next-program-on-CC13 information, particular meter-monitor information, information segment information of particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local- cable-enabling-message (#7).")
	Page 292 lines 7-11.	Receiving said message causes controller, 20, to load the enable-CC13 instructions and the enable-WSW instructions of the information segment of said message at particular RAM of controller, 20, and execute said

		instructions as the machine language instructions of one job.
	Page 294 lines 28-33.	Resulting in a match causes controller, 20, to execute a particular portion of said enable-CC13 instructions. Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission,....
	Page 295 lines 6-7.	Then, automatically, controller, 20, causes a selected tuner, 214, to tune to the frequency of cable channel 13,....

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-tune signal that causes a receiver to receive a selected transmission.	Column 19 lines 14-15;	...pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 24-25.	Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220,....

16. Claim 17

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-activate signal that controls a switch or inputs power to an apparatus.	Page 303 lines 19-23,	In due course, but still before said 8:30 PM time, said program originating studio commences transmitting analog television information on its transmission frequency and embeds and transmits particular SPAM message information on lines 20, 21, 22, 23, 24, 25, 26, and 27.
	and page 304 lines 10-11.	(Hereinafter, each of said SPAM messages is called a "2nd- WSW-program-enabling-message (#7).")
	Page 443 lines 19-28.	Executing said additional 2nd-stage-enable-WSW-program

		instructions at the station of Fig. 7 causes controller, 20, first to cause the apparatus of said station to commence transferring the decrypted television information of the "Wall Street Week" program transmission to decoder, 203, and microcomputer, 205. Automatically, controller, 20, causes matrix switch, 258, to cease inputting the decrypted video information of said transmission to signal processor, 200, (at switch, 1), and to commence transferring said video information
	Page 444 lines 23-26.	At the station of Fig. 7, executing said additional 2nd-stage-enable-WSW-program instructions causes controller, 20, thereafter to cause the apparatus of said station to determine that monitor, 202M,
	Page 445 lines 6-8,	Receiving said 202M-is-not-on information causes controller, 20, under control of said additional 2nd-stage- enable-WSW-program instructions,
	and lines 24-25.	...to switch power on to monitor, 202M,....

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-activate signal that controls a switch or inputs power to an apparatus.	Column 19 lines 14-15,	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 27-28.	Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."

17. Claim 18

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-enable signal that causes a transfer device to transfer a signal to an output device.	Page 303 lines 19-23.	In due course, but still before said 8:30 PM time, said program originating studio commences transmitting analog television information on its transmission frequency and embeds and transmits particular SPAM message information on lines 20, 21, 22, 23, 24, 25, 26, and 27.
	Page 304 lines 10-11.	(Hereinafter, each of said SPAM messages is called a "2nd- WSW-program-enabling-message (#7).")
	Page 309 line 30 to page 310 line 8.	...the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the decrypted television information of the "Wall Street Week" program to microcomputer, 205, and monitor, 202M. Automatically, controller, 20, causes matrix switch, 258, to transfer the decrypted audio information inputted from decryptor, 107, to monitor, 202M, thereby causing monitor, 202M, to commence receiving said audio information and emitting sound in accordance with said audio information.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-enable signal that causes a transfer device to transfer a signal to an output device.	Column 19 lines 14-15.	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	Column 19 lines 24-29.	Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and

		tuner, 215, to tune appropriately to "Wall Street Week."

18. Claim 19

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-how-to-decrypt signal that controls a decryptor.	Page 291 lines 9-20.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of a "01" header, execution segment information that matches said enable-next-program-on-CC13 information, particular meter-monitor information, information segment information of particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")
	Page 294 lines 30-35.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission
	Page 295 line 30 to page 296 line 3.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program transmission to matrix switch, 258.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-how-to-decrypt signal that controls a decryptor.	Column 13 lines 1-4.	Figures 4A through 4E illustrate methods for governing the reception of programing and the use of signal processor apparatus in these methods.

19. Claim 20

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-coordinate signal that coordinates a multimedia presentation.	Page 59 lines 29-33,	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	with, page 311 lines 10-16.	In due course, at said 8:30 PM time, said program originating studio commences transmitting the programming information of said "Wall Street Week" program, thereby causing the apparatus of the station of Fig. 4 (and of other correctly regulated and connected stations) to commence functioning in the fashions described above in "One Combined Medium" and in examples #1, #2, #3, and #4.
	Page 143 lines 6-11.	OPERATING SIGNAL PROCESSOR SYSTEMS ... EXAMPLE #2 In example #2, the first and third messages of the "Wall Street Week" combining are transmitted just as in example #1, but the second message is partially encrypted. The second message conveys the second combining synch command.
	Page 151 lines 26-33.	At microcomputer, 205, (and at the URS microcomputers, 205, at other stations where

		the second message of example #2 is decrypted) in the fashion described in example #1, said information, which is the unencrypted binary information of the second combining synch command, executes "GRAPHICS ON" causing microcomputer, 205, to combine the programming of Fig. 1A and of Fig. 1B and transmit said combined programming to monitor, 202M, where Fig. 1C is displayed. (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command."
	Page 26 lines 20-23.	

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-coordinate signal that coordinates a multimedia presentation.	Column 19 line 30; and column 19 line 59 to column 20 line 2.	Co-ordinating Multimedia Presentations in Time Then the host says, "And here is what your portfolio did." At this point, an instruction signal is generated in the television studio originating the programing and is transmitted in the programing transmission. This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

20. Claim 21

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed	Page 59 lines 29-33,	A SPAM message is the modality whereby the original transmission station that originates said message controls specific

processor control signal is an instruct-to-generate signal that generates information that supplements said programming.		addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	with page 311 lines 10-16.	In due course, at said 8:30 PM time, said program originating studio commences transmitting the programming information of said "Wall Street Week" program, thereby causing the apparatus of the station of Fig. 4 (and of other correctly regulated and connected stations) to commence functioning in the fashions described above in "One Combined Medium" and in examples #1, #2, #3, and #4.
	Page 197 lines 11-16.	OPERATING SIGNAL PROCESSOR SYSTEMS ... EXAMPLE #4 In example #4, the first and second messages are both partially encrypted, and the combining of Fig. 1A and Fig. 1B information occurs only at selected subscriber stations where the information of said messages causes decrypting and collecting of meter information as well as combining.
	Page 221 lines 28-32,	As described in "One Combined Medium" above, running said program instruction set causes microcomputer, 205, (and URS microcomputers, 205, at other subscriber stations) to place appropriate Fig. 1A image information at particular video RAM
	with page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.
	Page 25 lines 33-34;	Then the host says, "And here is what your portfolio did."
	with column 26 lines 8-10.	TV monitor, 202M, then displays ... the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language

The method of claim 2, wherein said received and processed processor control signal is an instruct-to-generate signal that generates information	Column 19 lines 45-50..	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
that supplements said programming.	Column 19 lines 59-60,	Then the host says, "And here is what your portfolio did."
	and, column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

21. Claim 22

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-generate signal that generates information that completes said programming.	Page 59 lines 29-33,	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	with page 311 lines 10-16.	In due course, at said 8:30 PM time, said program originating studio commences transmitting the programming information of said "Wall Street Week" program, thereby causing the apparatus of the station of Fig. 4 (and of other correctly regulated and connected stations) to commence functioning in the fashions described above in "One Combined Medium" and in examples #1, #2, #3, and #4.
	Page 197 lines 11-16.	OPERATING SIGNAL PROCESSOR SYSTEMS ... EXAMPLE #4 In example #4, the first and second messages are both partially encrypted, and the combining of Fig. 1A and Fig. 1B information occurs only at selected subscriber stations

		where the information of said messages causes decrypting and collecting of meter information as well as combining.
	Page 221 lines 28-32,	As described in "One Combined Medium" above, running said program instruction set causes microcomputer, 205, (and URS microcomputers, 205, at other subscriber stations) to place appropriate Fig. 1A image information at particular video RAM
	with page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said received and processed processor control signal is an instruct-to-generate signal that generates information	Column 19 lines 45-50..	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
that completes said programming.	Column 19 line 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

22. Claim 23

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an instruct-to-activate signal that	Page 303 lines 19-23,	In due course, but still before said 8:30 PM time, said program originating studio commences transmitting analog television information on its transmission frequency and embeds and transmits particular SPAM

controls a switch or inputs power to an apparatus.		message information on lines 20, 21, 22, 23, 24, 25, 26, and 27.
	and page 304 lines 10-11.	(Hereinafter, each of said SPAM messages is called a "2nd- WSW-program-enabling-message (#7).")
	Page 443 lines 19-28.	Executing said additional 2nd-stage-enable-WSW-program instructions at the station of Fig. 7 causes controller, 20, first to cause the apparatus of said station to commence transferring the decrypted television information of the "Wall Street Week" program transmission to decoder, 203, and microcomputer, 205. Automatically, controller, 20, causes matrix switch, 258, to cease inputting the decrypted video information of said transmission to signal processor, 200, (at switch, 1), and to commence transferring said video information
	Page 444 lines 23-26.	At the station of Fig. 7, executing said additional 2nd-stage-enable-WSW-program instructions causes controller, 20, thereafter to cause the apparatus of said station to determine that monitor, 202M,
	Page 445 lines 6-8,	Receiving said 202M-is-not-on information causes controller, 20, under control of said additional 2nd-stage- enable-WSW-program instructions,
	and lines 24-25.	...to switch power on to monitor, 202M,....

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an instruct-to-activate signal that controls a switch or inputs power to an apparatus.	Column 19 lines 14-15;	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 27-28.	and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."

23. Claim 24

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an instruct-to-enable signal that causes a transfer device to transfer a signal to an output device.	Page 303 lines 19-23.	In due course, but still before said 8:30 PM time, said program originating studio commences transmitting analog television information on its transmission frequency and embeds and transmits particular SPAM message information on lines 20, 21, 22, 23, 24, 25, 26, and 27.
	Page 304 lines 10-11.	(Hereinafter, each of said SPAM messages is called a "2nd- WSW-program-enabling-message (#7).")
	Page 309 line 30 to page 310 line 8.	...the controller, 20, of the station of Fig. 4 (and causes controllers, 20, at other stations where so determining occurs) to execute particular additional 2nd-stage-enable-WSW-program instructions, and executing said instructions causes controller, 20, to cause the apparatus of the station of Fig. 4 to commence transferring the decrypted television information of the "Wall Street Week" program to microcomputer, 205, and monitor, 202M. Automatically, controller, 20, causes matrix switch, 258, to transfer the decrypted audio information inputted from decryptor, 107, to monitor, 202M, thereby causing monitor, 202M, to commence receiving said audio information and emitting sound in accordance with said audio information.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an instruct-to-enable signal that causes a transfer device to transfer a signal to an output device.	Column 19 lines 14-15;	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 24-29.	Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video

		recorder, 217, on and record "Wall Street Week," and also microcomputer, 205, may instruct switch, 216, to turn TV set, 202, on and tuner, 215, to tune appropriately to "Wall Street Week."

24. Claim 25

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an instruct-how-to-decrypt signal that controls a decryptor.	Page 291 lines 9-20.	In the interval between said commence-enabling time and said 8:30 PM time, said head end is caused, in a predetermined fashion, to transmit a particular enabling SPAM message that consists of a "01" header, execution segment information that matches said enable-next-program-on-CC13 information, particular meter-monitor information, information segment information of particular enable-CC13 instructions and particular enable-WSW instructions that include particular enable-WSW-programming information, and an end of file signal on the frequency of said master control channel. (Hereinafter said message is called the "local-cable-enabling-message (#7).")
	Page 294 lines 30-35.	Executing the instructions of said portion causes controller, 20, in the predetermined fashion of the said portion, to cause selected apparatus of the station of Fig. 4 to receive the cable channel 13 transmission, to cause selected apparatus to decrypt the audio portion of said transmission
	Page 295 line 30 to page 296 line 3.	Automatically, controller, 20, selects information of cipher key Ca from among the information of said portion; transfers said cipher key information to decryptor, 107; and causes decryptor, 107, to commence decrypting its received audio information, using said key information and selected decryption cipher algorithm C, and outputting decrypted information of the audio portion of the "Wall Street Week" program transmission to matrix switch, 258.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is **an instruct-how-to-decrypt signal** that controls a decryptor.	Column 13 lines 27-29; and lines 1-4.	The signal or signals may also inform decrypter/interrupter, 101, how to decrypt or interrupt the programing if decrypter/ interrupter, 101, is capable of multiple means. Figures 4A through 4E illustrate methods for governing the reception of programing and the use of signal processor apparatus in these methods.

25. Claim 26

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is **an instruct-to-coordinate signal** that coordinates a multimedia presentation.	Page 59 lines 29-33, with, page 311 lines 10-16. Page 26 lines 20-23.	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages. In due course, at said 8:30 PM time, said program originating studio commences transmitting the programming information of said "Wall Street Week" program, thereby causing the apparatus of the station of Fig. 4 (and of other correctly regulated and connected stations) to commence functioning in the fashions described above in "One Combined Medium" and in examples #1, #2, #3, and #4. (Hereinafter, an instruction such as the above signal of "GRAPHICS ON" that causes subscriber station apparatus to execute a combining operation in synchronization is called a "combining synch command."

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said processor control signal is an **instruct-to-coordinate signal** that coordinates a multimedia presentation.	Column 19 line 30. Column 19 line 64 to column 20 line 2.	Co-ordinating Multimedia Presentations in Time This signal is identified by decoder, 203, and transferred via processor, 204, to microcomputer, 205. This signal instructs microcomputer, 205, to transmit the first overlay to TV set, 202, for as long as it receives the same instruction signal from processor, 204. The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

26. Claim 27

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said information supplements said television programming and said processor control signal is an **instruct-to-generate signal** that generates said information.	Page 26 lines 8-10, with page 25 lines 33-34, and page 24 line 14 to 25 line 6.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic. Then the host says, "And here is what your portfolio did." (Hereinafter, such a set of instructions that is loaded and run is called a "program instruction set.") In a fashion well known in the art, microcomputer, 205, loads the received binary information of said set at a designated place in RAM until, in a predetermined fashion, it detects the end of said set, and it executes said set as an assembled, machine language program in a fashion well known in the art. Under control of said program instruction set and accessing the subscriber's contained portfolio data file for information in a fashion well known in the art, microcomputer, 205, calculates the performance of the subscriber's stock portfolio and constructs a graphic

		image of that performance at the installed graphics card. The instructions cause the computer, first, to determine the aggregate value of the portfolio at each day's close of business by accumulating, for each day, the sum of the products of the number of shares of each stock held times that stock's closing price. The instructions then cause microcomputer, 205, to calculate the percentage change in the portfolio's aggregate value for each business day of the week in respect to the final business day of the prior week. Then in a fashion well known in the art, the instructions cause microcomputer, 205, to enter digital bit information at the video RAM of the graphics card in a particular pattern that depicts the said percentage change as it would be graphed on a particular graph with a particular origin and set of scaled graph axes.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said information supplements said television programming and said processor control signal is an instruct-to-generate signal that generates said information.	Column 19 lines 45-50..	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
	Column 19 lines 59-60,	Then the host says, "And here is what your portfolio did."
	and, column 19 line 67 to column 20 line 1.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

27. Claim 28

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said information completes said television programming and said processor control signal is an instruct-to-generate signal that generates said information.	Page 59 lines 29-33,	A SPAM message is the modality whereby the original transmission station that originates said message controls specific addressed apparatus at subscriber stations. The information of any given SPAM transmission consists of a series or stream of sequentially transmitted SPAM messages.
	with page 311 lines 10-16.	In due course, at said 8:30 PM time, said program originating studio commences transmitting the programming information of said "Wall Street Week" program, thereby causing the apparatus of the station of Fig. 4 (and of other correctly regulated and connected stations) to commence functioning in the fashions described above in "One Combined Medium" and in examples #1, #2, #3, and #4.
	Page 197 lines 11-16.	OPERATING SIGNAL PROCESSOR SYSTEMS ... EXAMPLE #4 In example #4, the first and second messages are both partially encrypted, and the combining of Fig. 1A and Fig. 1B information occurs only at selected subscriber stations where the information of said messages causes decrypting and collecting of meter information as well as combining.
	Page 221 lines 28-32,	As described in "One Combined Medium" above, running said program instruction set causes microcomputer, 205, (and URS microcomputers, 205, at other subscriber stations) to place appropriate Fig. 1A image information at particular video RAM
	with page 26 lines 8-11.	TV monitor, 202M, then displays the image shown in Fig. 1C which is the microcomputer generated graphic of the subscriber's own portfolio performance overlaid on the studio generated graphic.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 5, wherein said	Column 19 lines 45-50..	When the "Wall Street Week" transmission begins at 8:30 PM on a Friday evening, several

information completes said television programming and said processor control signal is an instruct-to-generate signal that generates said information.		instruction signals are identified by decoder, 203, and transferred to microcomputer, 205. These signals instruct microcomputer, 205, to generate several graphic video overlays, which microcomputer, 205, has the means to generate and transmit and TV set, 202, has the means to receive and display, and to transmit these overlays to TV set, 202, upon command.
	Column 19 line 67 to column 20 line 2.	The viewer then sees a microcomputer generated graphic of his own stocks' performance overlay the studio generated graphic.

28. Claim 29

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein programming is associated with said television program and said event signal communicated from said receiver station comprises an identification of said programming.	Page 428 lines 21-26.	The program-unit-of-interest information preprogrammed at the microcomputer, 205, of the station of Figs. 7 and 7C includes particular specific-WSW information that reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.
	Page 436 lines 24-33.	Executing said determine-whether-to-select instructions causes microcomputer, 205, to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20, of signal processor, 200. Said instructions contain one instance, and the the aforementioned program-unit-of-interest information that is preprogrammed at said microcomputer, 205, contains a second instance of specific-WSW information, which second instance reflects the wish of the subscriber of said station to view (or record) said "Wall Street Week" program when said program is transmitted.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language

The method of claim 2, wherein programming is associated with said television program and said event signal communicated from said receiver station comprises an identification of said programming.	Column 19 lines 5-8 ,	In another example, microcomputer, 205 may be preinformed that a certain television program, hypothetically "Wall Street Week," should be televised on TV set, 202, when it is cablecast.
	lines 12-14	Microcomputer, 205, instructs signal processor, 200, to pass all program and channel identifiers on all programing being cablecast on the multi-channel system.
	and lines 23-25.	Then, in a predetermined fashion, microcomputer, 205, may instruct tuner, 214, to switch box, 201, to channel X and may instruct control system, 220, to turn video recorder, 217, on and record "Wall Street Week,"

29. Claim 30

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said event signal communicated from said receiver station comprises a viewership statistic.	Page 88 lines 19-22.	In addition, monitor information is processed at selected stations for one or more so-called "ratings" agencies (such as the A. C. Nielsen Company) that collect statistics on viewership and programming usage.
	Page 311 lines 3-6.	thereby incrementing the information of the aforementioned meter record that records the decryption of the program transmission of the "Wall Street Week" program originating studio;

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said event signal communicated from said receiver station comprises a viewership statistic.	Same as step (2), plus, column 3 lines 66-67,	The method provides monitoring techniques to develop data on patterns of viewership....
	and column 15 lines 26-32.	Methods for Monitoring Reception and Operation Figure 5 illustrates methods for monitoring reception and operation which methods can

		be used to gather statistics on programing usage and associated uses of other data transmissions and equipment. Such statistics are necessary, for example, in the development of television program ratings.
	Page 18 lines 30-38.	TV signal decoder, 203, and radio signal decoder, 211, also identify certain signals that monitors or processors, 204 and 210 respectively, determine to identify the programs, etc. on the channels to which TV set, 202, and radio, 209, are tuned, The processors, 204 and 210, transfer this information to signal processor, 200, for recording and subsequent transmission to a remote data collection site.

30. Claim 31

Support to the 1987 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said event signal communicated from said receiver station comprises a query for information related to a portfolio of subscriber data.	Page 312 lines 6-8.	...from processing embedded SPAM combining synch commands and may interrogate remote station apparatus, by telephone, for cipher key and/or cipher algorithm instructions and information.
	Page 436 lines 23-26.	Executing said determine-whether-to-select instructions causes microcomputer, 205, to input said please-fully-enable-WSW-on-CC13-at-particular-8:30 information to the controller, 20, of signal processor, 200.
	Page 448 lines 4-13.	In actuality, the process of controlling computer- based combined media operations is continuous and involves systematic inputting and maintaining of up-to-date user specific data at each subscriber station. (For example, only at subscriber stations where user specific stock data is maintained systematically and up-to-date can the program instruction set of the first message of the "Wall Street Week" example generate Fig. 1A images that actually show the performance of the portfolios of the subscribers of said stations.)

	Page 534 lines 4-13.	Particular farm information of the specific farm of each farmer is recorded in a file named MY_FARM.DAT on a disk at the A: disk drive of the microcomputer, 205, of each station. The recorded data includes, for example, data of the number and size of the individual parcels of property of the farmer's farm, the soil conditions of said parcels, the aspects of said parcels with respect to sunlight and shade, the history of crop rotation of said parcels, the farm equipment of said farmer, and the financial resources of said farmer.

Support to the 1981 specification.

Claim Language	Spec. Reference	Specification Language
The method of claim 2, wherein said event signal communicated from said receiver station comprises a **query for information related to a portfolio of subscriber data.**	Column 19 lines 37-41.	It may receive these directly or it may automatically query a data service for them in a predetermined fashion. It records those prices that relate to the stocks in its stored portfolio.

31. Conclusion

Applicants respectfully submit that claims 2-31 and amended claim 5, 11 and 12 of the subject application particularly point out and claim the subject matter sufficiently for one of ordinary skill in the art to comprehend the bounds of the claimed invention. The test for definiteness of a claim is whether one skilled in the art would understand the bounds of the patent claim when read in light of the specification, and if the claims so read reasonably apprise those skilled in the art of the scope of the invention, no more is required. *Credle v. Bond*, 25 F.3d 1556, 30 USPQ2d 1911 (Fed. Cir. 1994). The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope. *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994).

Applicants have amended the claims to enhance clarity and respectfully submit that all pending claims are fully enabled by the specification and distinctly indicate the metes and bounds of the claimed subject matter.

D. Support for Previous Amendment of "signal words" to "signal units"

During the interview of July 15th, 1999, the Examiners requested Applicants to demonstrate that no new matter was introduced into the specification in the amendment entered on October 21, 1998 which changed the following language in the specification on page 37 lines 22-25:

> "Controller, 39, 44, or 47, is preprogrammed to receive [units] words of signal information, to assemble said [units] words into signal [words] units that subscriber station apparatus can receive and process, and to transfer said [words] units to said apparatus."

Applicants submit that this amendment was merely made to correct a typographical mistake on their part. Additionally, specification support to verify the necessity of the amendment is found in the following language from page 14 lines 22-35.

> In all cases, signals may convey information in discrete words, transmitted at separate times or in separate locations, that receiver apparatus must assemble in order to receive one complete instruction.
>
> (The term "**signal unit** " hereinafter means one complete signal instruction or information message unit.... The term "**signal word**" hereinafter means one full discrete appearance of a signal as embedded at one time in one location on a transmission....) *Emphasis added.*

From the above language, a "**signal unit**" is "one complete signal instruction or information message unit." *Words* of signal information are received and assembled into *signal units*, or completed instructions, for the subscriber station apparatus to receive, process and transfer. Thus, it should be

clear from this passage that no new matter was introduced with the amendment and Applicants urge the PTO to maintain and/or enter the previous amendment as appropriate under 37 C.F.R. § 1.118 (a).

E. Prior art anticipation by Campbell et al., U.S. Pat. No. 4,536,791

The examiner of record indicates that Applicants claims are anticipated by Campbell et al. The following sections, categorized by each independent claim, will demonstrate how Campbell et al. fails to anticipate Applicants' claim language.

U.S. Patent No. 4,536,791 to Campbell et al. relates to addressable cable television control systems with a video formatted data transmission. Campbell et al. discloses an addressable cable television control system that transmits a television program and data signal transmission from a central station to a plurality of remote user stations. Campbell et al.'s data signals include both control and text signals in video line format that are inserted on the vertical interval of the television signals. An intelligent converter at each remote user location processes the data signals to enable controlled descrambling of the television transmission to the system on the basis of channel, tier of service, special event and program subject matter. The converter includes apparatus for interfacing with a two-way interactive data acquisition and control system.

Campbell et al. teaches a head end station that includes a central data system utilizing a control computer that gathers data from a wide variety of sources and formats the data for transmission on video frequency channels. The formatted data is then transmitted by communication link to a television program processor where it is incorporated into the vertical blanking intervals of video signals by a variety of television program sources. The head end unit then transmits the combined cable television and data signal to remote subscribers.

Normally, the signals are then transmitted through a cable network to a plurality of subscribers. The signals are received by an addressable converter that determines whether to descramble the received television signal based on proper subscriber, event and eligibility data stored at the receiver station, or to leave the signal in its scrambled format.

1. Independent Claim 2

With respect to Applicants' claim 2, Campbell et al. fails to teach, *inter alia,*

one of programming and reprogramming, on the basis of said transmitted operating instructions, said receiver station *to respond in a predetermined fashion to said processor control signal;*

causing said receiver station to receive and output said *programming in accordance with said processor control signal.*

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that the two-way pay-per-view function includes operating instructions transmitted in response to an event signal. However, claim 2 sets forth that, on the basis of the operating instructions, the receiver station is programmed or reprogrammed to respond to a processor control instruction. Campbell et al. fails to teach any programming or reprogramming of a receiver station on the basis of operating instructions as defined by claim 2. Claim 2 also sets forth causing said receiver station to receive programming in accordance with said processor control signal. Campbell et al. fails to teach causing a receiver station *to receive* programming in accordance with processor control signals as set forth in claim 2. Applicants respectfully submit that Campbell et al. does not anticipate claim 2 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claims 3, 4, 16-22 & 29-31 depend upon independent claim 2. As discussed *supra*, Campbell et al. fails to disclose every element of claim 2 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 3, 4, 16-22 & 29-31. Therefore, Applicants request that claims 3, 4, 16-22 & 29-31 be permitted to issue.

2. Independent Claim 5

With respect to Applicants' claim 5, Campbell et al. fails to teach, *inter alia*, ***controlling, in accordance with said operating instructions, said receiver station to receive and output one of said television programming and information that is associated with said television programming.***

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that the two-way pay-per-view function includes control codes equivalent to Applicants' operating instructions set forth in claim 5. However, claim 5 sets forth controlling, in accordance with the operating instructions, the receiver station to receive either television programming or information associated with said television programming. Campbell et al. fails to teach operating instructions, received in response to inputted subscriber reaction, in accordance with the receiver station, to control to receive television programming or information.

Applicants respectfully submit that Campbell et al. does not anticipate claim 5 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claims 6 & 23-28 depends upon independent claim 5. As discussed *supra*, Campbell et al. fails to disclose every element of claim 5 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 6 & 23-28. Therefore, Applicants request that claims 6 & 23-28 be permitted to issue.

3. Independent Claim 7

With respect to Applicants' claim 7, Campbell et al. fails to teach, *inter alia,*

receiving, from said receiver station, *at said at least one remote data source, a query* for one of (i) *a function associated with said television programming* and (ii) *said data;*

transmitting, from said at least one remote data source to said receiver station, in response to said step of receiving, ***an instruct signal*** which is *effective at said receiver station* ***to cause said receiver station to store operating instructions*** at a storage device that is associated with a processor;

transmitting, from said at least one remote data source to said receiver station, ***a signal which controls said receiver station to process said operating instructions.***

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that the two-way pay-per-view function includes a converter request equivalent to the query set forth in claim 7 and also includes control codes equivalent to the instruct signals set forth in claim 7. However, claim 7 sets forth receiving a query for either a function associated with a television programming or data. Campbell et al. fails to teach that the converter requests either a function or data. Campbell et al., therefore, fails to teach a query as set forth by claim 7. Claim 7 also sets forth transmitting an instruct signal effective to store operating instructions at a storage device associated with a processor. Campbell et al. fails to teach any operating instructions stored by instruct signals. Likewise, claim 7 sets forth transmitting a signal that controls the receiver station to process the operating instructions. Campbell et al. fails to teach any signal that controls the receiver station to process such operating instructions.

Applicants respectfully submit that Campbell et al. does not anticipate claim 7 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

4. Independent Claim 8

With respect to Applicants' claim 8, Campbell et al. fails to teach, *inter alia,*

said *remote intermediate data transmitter station* adapted to (i) detect the presence of at least one control signal, ***said at least one control signal*** *operating at said remote intermediate data transmitter station* ***to control communication of said at least one instruct signal,*** (ii) to *control the communication* of said at least one instruct signal *in response to said detected at least one control signal;*

receiving said at least one instruct signal at said ***at least one origination transmitter station;***

delivering said at least one instruct signal *to at least one origination transmitter;*

receiving said *at least one control signal* at said ***at least one origination transmitter station;*** and

delivering said at least one control signal *to said at least one origination transmitter* before a specific time.

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that the head end station is equivalent to the remote intermediate transmitter station as presently set forth and that the addressable converter is equivalent to the receiver station as presently set forth. Campbell et al. fails to provide any details regarding an origination transmitter station. Claim 8 set forth receiving said at least one instruct signal at said at least one *origination transmitter station;* delivering said at least one instruct signal to at least one *origination transmitter;* receiving said at least one control signal at said at least one

origination transmitter station; and delivering said at least one control signal to said at least one *origination transmitter* before a specific time. Campbell et al. fails to teach any of these steps at an origination transmitter station.

Applicants respectfully submit that Campbell et al. does not anticipate claim 8 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claims 9 & 10 depends upon independent claim 8. As discussed *supra,* Campbell et al. fails to disclose every element of claim 8 and thus, *ipso facto,* Campbell et al. fails to anticipate dependent claims 9 & 10. Therefore, Applicants request that claims 9 & 10 be permitted to issue.

5. Independent Claim 11

With respect to Applicants' claim 11, Campbell et al. fails to teach, *inter alia,*

delivering said instruct signal to a transmitter at said transmitter station, ***said instruct signal being effective at said at least one of said plurality of receiver stations to store said operating instructions;***

*receiving, at said transmitter station, **an identifier that designates** one of said **instruct signal and said subscriber reaction** to said offer communicated in said mass medium program.*

As best Applicants understand, the Examiner of record interprets Campbell et al. to suggest that the control signals inserted in the television signals are equivalent to the instruct signal set forth in claim 11. However, claim 11 sets forth that the instruct signal is effective to store operating instructions. Campbell et al. fails to teach any control signal that is effective to store operating instructions. Claim 11 also sets forth an identifier that designates either the

instruct signal or a subscriber reaction to an offer communicated in a mass medium program. Campbell et al. fails to teach any such identifier.

Applicants respectfully submit that Campbell et al. does not anticipate claim 11 since the reference fails to disclose every element of the claimed invention. Therefore, Applicants request the claim be permitted to issue.

Claim 12-15 depends upon independent claim 11. As discussed *supra*, Campbell et al. fails to disclose every element of claim 11 and thus, *ipso facto*, Campbell et al. fails to anticipate dependent claims 12-15. Therefore, Applicants request that claims 12-15 be permitted to issue.

Applicants further respectfully submit that claims 2-31 in the present application should be permitted to issue because these methods are not disclosed, taught, suggested, or implied by the applied prior art. For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Foundation v. Genetech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001, 18 USPQ2d 1896 (Fed. Cir. 1991). Absence from a cited reference of any element of a claim negates anticipation of that claim by the reference. *Kloster Speedsteel AB v Crucible, Inc.*, 230 USPQ 81 (Fed. Cir. 1986), *on rehearing*, 231 USPQ 160 (Fed. Cir. 1986).

III. CONCLUSION

In accordance with the foregoing it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. Further, all pending claims are patentably distinguishable over the prior art of record, taken in any proper combination. Thus, there being no further outstanding objections or rejections, the application is submitted as being in a condition for issuance, which action is earnestly solicited.

If the Examiner has any remaining informalities to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such informalities.

Respectfully submitted,

Date: October 4, 1999
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Director's Office
Group 2700

In re Application of
John C. Harvey et al
Title: SIGNAL PROCESSING
APPARATUS AND METHODS

WITHDRAWAL FROM ISSUE

Applications 08/484,858, 08/488,438, 08/472,980, and 08/447,415 are being withdrawn from issue after payment of the issue fee due to unpatentability of one or more claims. See 37 CFR 1.313(b)(3).

The above-identified applications are hereby withdrawn from issue.

The issue fee is refundable upon written request. If, however, the applications are again found allowable, the issue fee can be applied toward payment of the issue fee in the amount identified on the new Notice of Allowance and Issue Fee Due upon written request. This request and any balance due must be received on or before the due date noted in the new Notice of Allowance in order to prevent abandonment of the application.

Telephone inquiries should be directed to Mrs. Krista Zele at (703) 305-4701.

The above-identified application is being forwarded to the examiner for prompt appropriate action, including notifying applicant of the new status of these applications.

Mr. James L. Dwyer
Director, Technology Center 2700
Communication and Information Processing

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Art Unit 2611

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Group 2700

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WASHINGTON, D. C. 20004-2402

In re Application of :
John C. Harvey :
Application No.08/444,788 :
File Date: 05/19/95 : WITHDRAWAL FROM ISSUE
Title: SIGNAL PROCESSING :
APPARATUS AND METHODS :

Application 08/444,788 is being withdrawn from issue after payment of the issue fee due to unpatentability of one or more claims. See 37 CFR 1.313(b)(3).

The above-identified applications are hereby withdrawn from issue.

The issue fee is refundable upon written request. If, however, the applications are again found allowable, the issue fee can be applied toward payment of the issue fee in the amount identified on the new Notice of Allowance and Issue Fee Due upon written request. This request and any balance due must be received on or before the due date noted in the new Notice of Allowance in order to prevent abandonment of the application.

Telephone inquiries should be directed to Mr. Andrew Faile at (703) 305-4380.

The above-identified application is being forwarded to the examiner for prompt appropriate action, including notifying applicant of the new status of these applications.

Mr. James L. Dwyer
Director, Technology Center 2700
Communication and Information Processing

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Appln. of :	)	
	)	
HARVEY et al.	)	Group Art Unit: 2731
	)	
Serial No.: 08/470,571	)	Examiner: William Luther
	)	
Filed: June, 6 1995	)	

For: **SIGNAL PROCESSING APPARATUS AND METHODS**

PETITION TO THE COMMISSIONER UNDER 37 C.F.R. § 1.181

Assistant Commissioner for Patents
BOX DAC
Washington, DC 20231

Sir:

This petition is a request that the Commissioner of Patents and Trademarks ("Commissioner") exercise his supervisory authority in two separate circumstances: (1) over the Examiner responsible for this application with respect to an Office Action mailed January 7, 2000, in the above-referenced patent application and (2) over the Group Director who is responsible for supervision of the Examiner assigned to the present application and who is additionally responsible for the other examiners in Technology Center 2700 assigned to examine other applications related to the present application because they share a parent disclosure under 35 U.S.C. § 120.

1. Applicants respectfully petition the Commissioner to impose a schedule on the examiners responsible for this and related applications, including the Group Director, who has overall supervisory authority over the examiners and supervisory examiners responsible for all these applications. Applicants urge that the Commissioner require the examiners responsible for each active application to issue an Office Action within thirty days of the Commissioner's grant of this petition and to respond to each subsequent amendment or Rule 111 response within thirty days after its filing with the Patent and Trademark Office (PTO). Such a schedule would impose a time limit prohibiting further delay in issuing Office Actions and other correspondence in this application and the other applications related under 35 U.S.C. § 120.

2. Applicants respectfully petition the Commissioner to require the Examiner to withdraw a so-called "Administrative Requirement" imposed on Applicants by the Examiner in the Office Action enumerated above.

The Administrative Requirement, its improper nature, and the unreasonable delays of the PTO requiring a Commissioner mandated schedule are described in detail below. A $130.00 fee for filing this Petition is enclosed herewith. Under the provisions of 37 C.F.R. § 1.181(f), this petition is timely filed within two months from the Office Action issued January 7, 2000.

I. Introduction

In the period between March 2, 1995, and June 7, 1995, Applicants filed 328 applications, including the instant application. These related applications were continuation applications of Applicants' pending application serial number 08/113,329, filed August 30, 1993.

During the period from June 1995 through November 1998, the PTO issued well over *seven hundred* Office Actions regarding these applications. Applicants diligently responded to each of these seven hundred Office Actions and, in all respects, vigorously pursued the allowance of each of these applications. These responses included over 25 thousand pages of detailed exposition of why the various grounds of rejection were improper. In this process, the assignee of these applications, Personalized Media Communications, L.L.C., expended over twenty-five man-years of attorney time. This process has cost Applicants over $500,000 in filing and other PTO fees and well in excess of $1 million in attorneys fees. Additionally, Applicants themselves expended over five man-years on prosecution activities from the Fall of 1994 to the present. Through the industrious effort of Applicants and the PTO, by November 1998, nine applications were allowed with the issue fee paid in six applications, another sixteen applications were indicated to be allowable, and some sixteen other applications included claims directed to subject matter indicated to be allowable.

In November 1998, Applicants' representatives and PTO management commenced a series of interviews. During these interviews, senior PTO management expressed the view that the further examination of Applicants' related applications could be *expedited* by reducing the number of pending applications. Applicants agreed to consolidate the claims into 56 subject matter groups as explained in detail below. Thousands of claims were cancelled from pending applications and transferred into groups of two to four applications directed to each subject

matter group. This consolidation process has cost Applicants over $500,000 in additional new claim fees under 37 C.F.R. § 1.16(b-c).

Applicants expected that the thousands of man hours of effort put forth by Applicants and their representatives in prosecuting these related application, which had resulted in hundreds of claims indicated to be allowable, would provide a solid foundation on which the further prosecution of the remaining consolidated applications would be based. To the contrary, the consolidation process has resulted in the effective suspension of the prosecution of Applicants' applications. Nearly a year passed between the consolidation of the claims in the instant application and the issuance of a complete office action. Only one other of Applicants' related applications has been addressed by the PTO since the consolidation process began over a year ago. Furthermore, during this time four of Applicants' allowed applications were withdrawn from issue after payment of the issue fee based on the contention that one or more claims therein were unpatentable. However, the PTO has provided no explanation supporting the alleged unpatentability of those claims. The prosecution of Applicants' related applications has been repeatedly delayed through the imposition of unlawful requirements on Applicants by the PTO and through the general inaction of the PTO.

A. Summary of the First Petition Request

The first request is necessitated by the repeated delay by the examiners in Technology Center 2700 in acting on this application and Applicants' related applications even as they are purportedly being directly supervised by the Director to expedite consideration of Applicants'

related applications. The present application was filed June 6, 1995, and claims priority under 35 U.S.C. § 120 of an application filed on November 3, 1981. The Manual of Patent Examining Procedure (M.P.E.P.) § 708.01(i) designates such an application as a "special case" and requires that it be taken out of turn. Each of Applicants' 328 related co-pending applications has an effective pendancy of more than five years and, thus, must be treated as "special cases" under M.P.E.P. § 708.01(i). As will be explained in detail below, this application and those related to it have not been taken out of turn and advanced for examination. Rather, their consideration has been purposefully delayed contrary to the M.P.E.P.'s mandate. The Commissioner must exercise his supervisory authority to correct this circumstance. As will be explained in detail below, the Commissioner should impose a schedule on the Examiner of this application and the other examiners handling Applicants' related applications. In Applicants' view, the delay in examination of this and all related applications is directly attributable to the PTO. Applicants have diligently sought to advance and accelerate the examination process. The present pattern of delay must be corrected.

B. Summary of the Second Petition Request

The second request in this Petition is necessitated by Examiner William Luther's improper imposition of a so-called "Administrative Requirement" included in the Office Action issued in the present application on January 7, 2000. In brief, the Administrative Requirement compels Applicants to do one of the following in order to obtain allowance of the instant application:

(1) file a terminal disclaimer in all Applicants' co-pending related applications, not just the instant application, without regard to the subject matter claimed therein;

(2) provide an affidavit attesting that no conflicts exist in any of the co-pending applications; or

(3) resolve all conflicts in all of Applicants' co-pending applications by identifying how the claims in the instant application are distinct and separate inventions from all claims in all Applicants' co-pending applications.

In essence, the Examiner seeks to require Applicants to relieve him from the obligation of examining the application for such conflicts as required by the M.P.E.P. The Examiner's stated basis for this requirement is the large number of co-pending claims. Contrary to the Examiner's assertion, as explained below, Applicants have undertaken every effort to ease any burden on the Examiner in performing his duty to compare the claims in this application with claims in the co-pending applications as required by the M.P.E.P. Applicants have consolidated claims of pending applications into groups with common subject matter. Further, Applicants have submitted extensive documentation on paper and in electronic format to assist the Examiner in analyzing and comparing the claims. Despite this, in the mere recent January 7, 2000, Office Action, the Examiner has imposed this unwarranted Administrative Requirement upon the Applicants. As the Administrative Requirement has been made a condition of allowance, Applicants' failure to comply with it will result in abandonment of the instant patent application.

The actions of the Examiner have exceeded his authority and are contrary to PTO procedures as mandated by the M.P.E.P.

II. Description of Prosecution Activities for This and Related Applications

1. The present application is a continuation application claiming the benefit under 35 U.S.C. § 120 of U.S. Patent Application, Serial No. 096,096, entitled "Signal Processing Apparatus and Methods," filed on September 11, 1987 in the name of John C. Harvey and James W. Cuddihy (Harvey 1987 application). The Harvey 1987 application is a continuation-in-part application claiming the benefit under 35 U.S.C. § 120 of U.S. Patent Application Serial No. 317,510, filed November 3, 1981, in the name of Harvey and Cuddihy and also entitled "Signal Processing Apparatus and Methods" (Harvey 1981 application). The present application claims, under 35 U.S.C. § 120, the benefit of the filing date of the Harvey 1981 application. Seven United States patents have issued to date including either the disclosure of the Harvey 1981 application or the Harvey 1987 application:

U.S. Patent No. 4,694,490
U.S. Patent No. 4,704,725
U.S. Patent No. 4,965,825
U.S. Patent No. 5,109,414
U.S. Patent No. 5,233,654
U.S. Patent No. 5,335,277
U.S. Patent No. 5,887,243

In the period between March 1995 and June 1995, Applicants filed some 328 United States patent applications which claimed the benefit under 35 U.S.C. §120 of either (i) the Harvey 1981 application through the Harvey 1987 application or (ii) solely the Harvey 1987 application. Each of these applications was a continuation application under then Rule 60, 37 C.F.R. §1.60, of U.S. Patent Application Serial No. 113,329, filed August 30, 1993, which claimed the benefit of

Harvey 1981 application through the Harvey 1987 application.[1] All Applicants' Rule 60 applications were filed prior to the June 8, 1995, effective date of those provisions of the Uruguay Round Agreements Act, Pub. L. No. 103-465, § 532, 108 Stat. 4983 (1994), which modified the effective term of issued United States patents to twenty years from the earliest effective filing date for the application under 35 U.S.C. §120. Applicants in good faith directed the claims in each Rule 60 application to what was considered distinct subject matter as will be described in greater detail below. In the period from June 1995 through November 1998, Applicants vigorously pursued allowance of each of the applications. Over twenty-five man-years of effort were exerted to prepare detailed responses in each application providing an explanation of (1) the support from the 1981 and 1987 disclosures for the claims as requested, and (2) the patentable distinctions between the pending claims in each application and the prior art. Numerous interviews were conducted. By the Fall of 1998, this effort had resulted in the allowance of nine of these applications, the indication of a notice of allowance in a further sixteen applications and the indication of allowable subject matter in an additional sixteen applications.

2. On November 25, 1998, Applicants' representatives, Donald J. Lecher and Thomas J. Scott, Jr., met with Chief Examiner Andrew I. Faile, Group Art Unit 2712, to discuss further

[1] In certain applications, the claim under 35 U.S.C. § 120 was later limited to the Harvey 1987 application.

proceedings in the PTO on Applicants' remaining unallowed applications. At that meeting, Applicants' representatives provided Examiner Faile a document entitled "Analysis of PMC Application Claims by Subject Matter Categories." [The subject category analysis document is attached as Exhibit A to this Petition.] The subject matter categories in the Exhibit A document, which had been previously identified to the PTO examiners, define the claims of the Applicants' applications based on the general subject matter to which the claims are addressed. As stated above, each PMC application had its own subject matter identification which defined the specific distinct subject matter presented in that application. For organizational purposes, Applicants grouped the applications into general subject matter categories. For example, the general subject matter category designated ADVT is addressed to systems which present advertising at receiver sites and the general category designated ASIN is addressed to systems for assembling information and instructions at a receiver site. Under these general subject matter categories, each application had a specific subject matter to which its claims were addressed.

3. At the November 25, 1998 interview, Examiner Faile indicated that the PTO desired to consolidate all Applicants' applications in each of the 56 subject matter groupings into one or two applications and then to resolve collectively any remaining issues as to the pending claims under 35 U.S.C. §112 and with regard to general double patenting issues in such consolidated applications. Examiner Faile expressed the view that the claims within each subject matter category were similar such that they could be presented in one or two applications for each category. Accordingly, Examiner Faile request the consolidation of the claims and assured

Applicants that no restriction requirements would be warranted or would be issued as a result of combining different claims into one application. Examiner Faile's stated view was that, after resolving such §112 and general double patenting issues for each group, any rejections on art or otherwise could then be resolved for that group by the responsible examiners and Applicants' representatives. Following the November interview, Applicants provided Examiner Faile by e-mail additional detailed information as to the status of all PMC's applications. Applicants' representatives had further discussions which resulted in a final interview on prosecution procedures with Examiner Faile on February 25, 1999. At that interview, a flowchart was produced to govern the "consolidation" of the various claims into a limited number of applications and their examinations by the PTO examiners. The flowchart on the consolidation process is attached to this Petition as Exhibit B. The consolidation of Applicants' groupings would, in the PTO's stated view, allow for an acceleration of the overall prosecution process.

4. Pursuant to this procedure, PMC began in Spring 1999 to consolidate its various applications, with assistance of Chief Examiner Faile, using an Interview Summary Sheet to effect the consolidation. [The general form of this Interview Summary Sheet is attached to this Petition as Exhibit C.] In each case, the surviving applications were amended to include all claims for a particular subject matter grouping and the other applications were either expressly abandoned or allowed to be abandoned by failure to respond to an outstanding PTO action. Attached to the Petition as Exhibit D is a list of the applications to remain pending for each of the 56 subject matter groupings through which the PTO was to consider all Applicants' pending

claims. In early Summer 1999, the PTO and Applicants' representatives set up a priority list for the consideration of the various groups and an interview procedure for evaluation of Applicants' applications. [These documents are attached as Exhibits E and F to the Petition.]

5. The PTO decided to assign a group of examiners under the general direction of Chief Examiner Andrew I. Faile, Art Group 2712, and Chief Examiner Tommy P. Chin, Art Group 2713, to follow the specified procedure of interviews to clarify any issues pursuant to 35 U.S.C. §112 or the relative art considerations and to generate Office Actions. During this process, numerous applications in which allowable subject matter had been noted or which had been indicated as allowable but for which issue fee documentation had not been mailed were consolidated in one or more of the 56 subject matter groupings so that the various claims could be evaluated and issued together under the PTO's new procedure.

6. The first subject matter groups to be considered by the PTO were groupings Applicants had designated with the terms (1) INTE, which covers "methods of integrating remote with local processing and imaging" and (2) MULT, which covers "coordination of multi-channel/media and multi-media presentations." Various senior PTO management, in particular, Director James L. Dwyer, promised that the PTO would issue an office action in the INTE and MULT claims in early October 1999. Copies of e-mail correspondence between Applicants' representatives and Director Dwyer regarding these office actions are attached to this petition as Exhibit G.

7. At the same time, Director Dwyer was also evaluating whether four of the five PMC applications in which the issue fee had been paid should be a part of the consolidated prosecution

procedures. (The PTO clerical staff is unable to find one of the five applications on which Applicants had paid the issue fee.) These five applications were in condition to be issued as letters patent. In fact, one had been assigned a patent number and issue date. The examination corps under the direction of Director Dwyer evaluated whether these four applications should be withdrawn from issue pursuant to 37 C.F.R. §1.313. Applicants' view was that such withdrawal was not warranted. Applicants viewed the consolidated examination process as a means to expedite prosecution. In Applicants' view, it was counterproductive to subject applications that had already been allowed to this process. A series of interviews were held with respect to the withdrawal issue on June 16, 1999; July 1, 1999, and July 13, 1999. At these interviews, the PTO examiners expressed their views as to why the claims should be not be issued. The examiners expressed the basic view that one or more claims in these applications were unpatentable either under §102, §103 or §112, i.e., not patentable over U.S. Patent No. 4,536,791 to John G. Campbell et al. or not properly supported in the original Harvey 1981 or Harvey 1987 application specifications as required by 35 U.S.C. §112. Although Director Dwyer expressed his policy that the claims should be amended to address the Examiners' concerns, no further details were given as to the specific grounds for reversing the determination that these applications were allowable. On August 5, 1999, in order to provide as much information as possible for advancing the prosecution and despite the lack of specific grounds for the determinations of unpatentability, Applicants submitted amendments under 37 C.F.R. §1.312 for certain of these applications and detailed arguments for each application as to why the various

general potential grounds for withdrawal were improper. These submissions are attached to the Petition as Exhibits H, I, J and K. On November 4, 1999, Director James L. Dwyer of Technology Center 2700 issued a letter withdrawing four of the allowed applications from issuance. No explanation for the withdrawal was provided, only a blanket statement that the applications were being withdrawn due to unpatentability of one or more of the claims. The letter indicated that the withdrawn applications would be forwarded to the examiner for prompt appropriate action. The prompt action was to include notifying applicant of the new status of the withdrawn applications. A copy of this letter is attached to this Petition as Exhibit L. No further communications regarding these applications have been received to date.

8. Attached to this Petition as Exhibit M is a chart providing the status of a representative list of Applicants' applications which had been allowed or for which allowable subject matter had previously been found.

9. In the period since June 1995, only one of Applicants' applications has been issued, Serial No. 480,060, filed June 7, 1995, issued on March 23, 1999, as U.S. Patent No. 5,887,243. (A copy of the patent is attached to this Petition as Exhibit N.) There was an error on the face page of the '243 patent as to its term. A Certificate of Correction as to this error was submitted to the PTO on April 26, 1999 and is still under consideration at the PTO. (A copy of the Certificate of Correction is attached to this Petition as Exhibit O.)

10. An Office Action was issued in the present INTE application on October 19, 1999. This Office Action was incomplete and did not include the Administrative Requirement addressed

herein. The Office Action subsequently was reissued on January 7, 2000, with supplemental rejections including the Administrative Requirement. An Office Action was eventually issued in the MULT application (S/N 08/487,526) on January 14, 2000, some three months after it was promised. The Office Action in the INTE application (as in the MULT application) includes new grounds of rejection and accordingly deems Applicants' prior response moot. To date, no other Office Action in any of the other subject matter groupings have been issued, contrary to the express promise of senior PTO management.

11. In spite of all Applicants' efforts, the Examiner has failed to deal with Applicants in good faith. He has imposed the Administrative Requirement which is totally contrary to law as explained below. Technology Center 2700, through Director Dwyer, has failed to deal with this application and the related applications with the dispatch which the M.P.E.P. mandates. This is a clear case in which the Commissioner's supervisory authority is required.

III. The Administrative Requirement Imposed Upon Applicants to Resolve Alleged Conflicts Between Applicants' Applications is Totally Contrary to Law and Should be Withdrawn.

Applicants respectfully petition the Commissioner to require the Examiner to withdraw the so called "Administrative Requirement" imposed by the Office Action mailed January 7,

2000. The unreasonable and unfair nature of the Administrative Requirement is explained in detail below.[2]

On page 128 of the Office Action, the Requirement compels Applicants to:

(1) file terminal disclaimers in each of Applicants' related applications terminally disclaiming each of the other applications;

(2) provide an affidavit attesting to the fact that all claims in all of Applicants' applications have been reviewed by Applicants and that no conflicting claims exists between the applications. Applicants would be required to provide all relevant factual information including the specific steps taken to insure that no conflicting claims exist between the applications; or

(3) resolve all conflicts between claims in the various applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the other co-pending applications.

By explicitly requiring Applicants to comply with one of these requirements to obtain allowance of the application, the Examiner has imposed a condition which will result in abandonment if Applicants fail to comply with the Requirement.

The Examiner states that the Requirement has been made because conflicts exist between claims of the related co-pending applications, including the present application. However, the

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[2] Applicants' request through petition that the Commissioner impose an expedited schedule on the examiners responsible for this and related applications and the Director James L. Dwyer for Office Actions and other correspondence, is explained in Section IV below. A (continued . . .)

Examiner has utterly failed to indicate which claims are conflicting. The Examiner has listed the serial numbers of Applicants' co-pending applications and attached an Appendix A that includes five claim comparisons of claims from the co-pending applications. No claim from the present application is addressed. The Examiner deems this showing to be "clear evidence" that conflicting claims exist between the 328 related co-pending applications and the present application. Further, the Examiner states that an analysis of all claims in the 329 related co-pending applications would be an extreme burden on the Office requiring millions of claim comparisons.

As will be explained below, this requirement has no basis in law.

A. The Alleged Administrative Requirement is Outside the Scope of 37 C.F.R. § 1.78(b)

Rule 78(b) provides that:

> Where two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application.

Rule 78(b) requires the elimination of conflicting claims from all but one co-pending applications. It cannot be construed to sanction the imposition of the present Administrative Requirement.

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schedule is necessitated by the unreasonable delay created by the PTO's failure to act as detailed below.

In the January 7, 2000, Office Action, the Examiner did not establish a procedure for the elimination of conflicting claims from all but one application or provide analysis of such conflicts to effect such elimination. Instead, he has required Applicants to: 1) file terminal disclaimers in each of the related 329 applications; 2) provide an affidavit verifying that no conflicts exist; or 3) resolve all conflicts between claims in the related 329 applications. None of the options compelled by the Requirement is authorized by Rule 78(b). Therefore Applicants respectfully submit that the imposition of such a requirement is improper.

To implement the requirements of Rule 78(b), M.P.E.P. § 822.01 directs the Examiner to treat conflicting claims as follows:

> Under 37 C.F.R. § 1.78(b), the practice relative to overlapping claims in applications copending before the examiner. . . , is as follows: Where claims in one application are unpatentable over claims of another application of the same inventive entity because they recite the same invention, *a complete examination should be made of the claims of each application* and all appropriate rejections should be entered in each application, including rejections based upon prior art. *The claims of each application may also be rejected on the grounds of* ***provisional*** *double patenting on the claims of the other application* whether or not any claims avoid the prior art. Where appropriate, the same prior art may be relied upon in each of the applications. M.P.E.P. § 822.01 (6th Ed., Rev. 3, 1997), (*emphasis added*).

Contrary to the express directives of M.P.E.P. § 822.01 and 37 C.F.R. § 1.78(b), the Examiner here has made no effort to examine the co-pending applications nor made any rejection to achieve the elimination of conflicting claims from all but one co-pending application. He has simply ignored these mandates.

B. The Examiner's Conditioning of Further Examination and Allowance of the Applications on Compliance with the Administrative Requirement Exceeds His Authority

The Examiner has stated that failure to comply with the Administrative Requirement will result in abandonment of the present application. Applicants respectfully submit that abandonment of an application can properly occur only:

(1) for failure to respond within a provided time period (under Rule 135);

(2) as an express abandonment (under Rule 138); or

(3) as the result of failing to timely pay the issue fee (under Rule 316).

The PTO rules include no provision permitting abandonment for failure to comply with any of the requirements presented by the Examiner. To impose an improper requirement upon Applicants and then to hold the application as abandoned for failure to comply with the improper requirement violates the PTO rules and exceeds the Examiner's authority. Furthermore, the Examiner is, in effect, attempting to create a substantive rule which is above and beyond the rulemaking authority of the PTO, and therefore is invalid.

In the *Application of Mott*, 539 F.2d 1291, 190 U.S.P.Q. 536 (C.C.P.A. 1976), the applicant had conflicting claims in multiple applications. The C.C.P.A. held that action by the Examiner which would result in automatic abandonment of the application was legally untenable. *Id.* at 1296, 190 U.S.P.Q. at 541. In the present application, the Examiner has asserted that there are conflicting claims in multiple applications, and by affirmatively requiring action by the Applicants, the Examiner has imposed a condition which will effectively result in an

abandonment upon failure to comply with the Administrative Requirement. Therefore, under *Mott's* analysis, the Office Action's conditional abandonment of the application is legally untenable.

C. The Allegation that Examination is Burdensome and Onerous is Obviated by Applicants' Extensive Submissions

The Examiner's justification for imposing the Administrative Requirement is that an analysis of all claims in the related co-pending applications would be an extreme burden on the PTO requiring millions of claim comparisons. The burden of comparing the claims in the pending application to the claims in 328 other applications is manageable within the context of an examination of a patent application for patentability. Such an examination includes, for instance, a determination that the claims are not obvious in view of all printed publications, including millions of issued U.S. patents, published more than a year prior to the filing date of the application. Of course, the PTO does not compare each pending claim to every printed publication, but rather relies on the expertise of the examiner and careful classification of prior patents and technical literature to focus on the prior art that is most pertinent. Applicants have diligently worked to educate the Examiner regarding the differences between the claims of the co-pending applications. Applicants have provided the PTO with Applicants' classifications of the various applications and have submitted extensive documents on paper and in electronic form to assist the Examiner in analyzing and comparing the claims at issue. See *supra.* Part II 2. Applicants and their representatives have conducted numerous interviews in an effort to answer all the Examiner's questions as to claims distinctions and similarities. In fact, after Applicants

provided the various conceptual groups used by Applicants to classify and organize the pending applications, the PTO requested that all claims in each group be consolidated into groups of two to four applications. Applicants complied with this request in an effort to eliminate any excessive burden of claim comparison on the Examiner. See *supra.* Part II 3. Applicants have submitted all information necessary to enable the Examiner to focus on the most pertinent claims for comparison under a double patenting analysis.

Despite the Applicants' efforts to work with the PTO in providing supplemental material to assist with the Examiner's task of claim comparisons, the Examiner has imposed the Administrative Requirement effectively requiring Applicants to compare the claims and make a determination for the Examiner on the double patenting issue. When an examiner is unable to articulate any reason for rejecting a patent application, 35 U.S.C. § 131 mandates issuance. By requiring a statement from Applicants regarding conflicting claims, the Examiner has ignored the material submitted by Applicants to assist the Examiner in making such claim comparisons. The Examiner may not ignore the record made by Applicants as to the relationship among the claims and simply require a blanket statement which acts as if the record were not present. The Examiner has a duty to examine that includes considering all materials Applicants have submitted.

D. The Examiner Has a Duty to Examine an Application and Can Not Shift This Duty to the Applicants

Under 35 U.S.C. § 131, the Commissioner "shall cause an examination to be made of the application . . .; and if on such examination it appears that the applicant is entitled to a patent

under the law, the Commissioner shall issue a patent therefor." The statute clearly mandates an examination to occur on behalf of the Commissioner through his agent, the examiner. The use of the mandatory word "shall" imposes a duty on the Examiner which may not be shifted to Applicants. The duty to examine is the Examiner's primary role. *See also* 35 U.S.C. §§ 101-103 (A person shall be entitled to a patent unless — . . .")

Moreover, under 35 U.S. C. § 132, "[w]henever, on examination, any claim for a patent is rejected, . . . , the Commissioner shall notify the applicant thereof, stating the reasons for such rejection . . ." This statute provides that the Commissioner must give reasons for rejecting a claim for a patent. M.P.E.P. § 706 provides that the "goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity." 37 C.F.R. § 1.104 further delineates the Examiner's duty to examine and provide reasons for any and all rejections of a patent.

Here, however, the imposition of the Administrative Requirement by the Examiner shifts the burden of examination and notification of the bases for rejection to the Applicants. By forcing the Applicants to perform the task of examination, the Examiner is requiring Applicants to narrow the claims to avoid what might, by others, be considered conflicting claims. The Examiner is requiring Applicants to make an affirmative representation. When no accompanying prima facie rejection requirement has been made, Applicants have no duty to under PTO rule 56, or under any obligation found elsewhere in the rules, to determine whether claims may conflict.

This role of examination is statutorily reserved for the Examiner under 35 U.S.C. § 131. No authority exists for shifting the burden of performing the task of examination to the Applicants.

Rather than conducting a thorough examination and then articulating his basis for rejection of the instant application, the Examiner has essentially presumed obvious-type double patenting and has required Applicants to resolve the issue of obviousness-type double patenting by either: 1) filing terminal disclaimers; 2) filing an affidavit verifying that no conflicts exist; or 3) resolving all potential conflicts. Abandonment will occur if Applicants fail to comply with one of these options as required by the Examiner. Under option 1), Applicants may concede the validity of the double patenting rejection by filing terminal disclaimers and lose years of patent coverage with respect to all pending applications. Under option 2), Applicants may provide information to insure that no conflicting claims exist between the applications. Under option 3), Applicants may resolve all conflicts between the claims. All three options imposed by the Administrative Requirement are unreasonable and unfair to the Applicants and totally contrary to PTO rules and procedures. The filing of terminal disclaimers in all pending applications is essentially an admission that a double patenting rejection is appropriate when no evidentiary basis exists for that conclusion. A loss of valuable years of coverage is an unreasonable and unfair result when the Examiner has failed to establish a prima facie case of obviousness-type double patenting. Thus, if Applicants desired to traverse the double patenting rejection, under options 2) and 3), they would be, contrary to the requirements of law, forced to perform the task of examination themselves, i.e., ensure no conflicting claims exist or resolve all conflicts.

Applicants have directed the claims in each application towards specific subject matter. The claims attempt to define the specific subject matter claimed in a broad manner. Applicants are entitled to claim the subject matter invented in the broadest manner that does not encompass prior art. A narrowing of claim coverage to avoid potential conflicts is an unreasonable and unfair result when the Examiner has failed establish a prima facie case of obviousness-type double patenting

The statute and rules clearly impose on the Examiner a duty to examine an application for patent. There is no authority to shift this duty to Applicants for any reason. In the Office Action, the Examiner has cited the basis for rejection, namely obviousness-type double patenting, but has failed to provide the reasons for the rejection, which should include specific claim comparisons. Instead, the Examiner has imposed the burden of examination and determination of patentability upon Applicants. The Examiner has required Applicants to prove patentability, instead of the Examiner demonstrating reasons of unpatentability. These actions are contrary to the provisions of the Patent Act and the PTO rules and regulations.

E. Only When the Examiner Has Made A Prima Face Case May the Burden Shift to the Applicant

When rejecting claims, the Examiner bears the initial burden of presenting a prima facie case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* If the Examiner fails to establish a prima facie case, the rejection is

improper and will not stand. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

To support obviousness-type double patenting rejections, the Examiner must conduct the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Any resulting factual determinations are employed when making any obviousness-type double patenting analysis. M.P.E.P. §804 mandates that the analysis employed in an obviousness-type double patenting determination parallel the factual and legal analysis for a 35 U.S.C. § 103(a) rejection. Thus, when making obviousness-type double patenting rejections, the Examiner should make clear: (a) the differences between the inventions defined by the conflicting claims; and (b) the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim in issue is an obvious variation of the invention defined in a claim in the patent. M.P.E.P. § 804 B.1. Therefore, the M.P.E.P. procedure for determining whether conflicting claims exist in related applications makes clear that the double patenting analysis is a duty of the Examiner, which may not be forced upon the Applicant under threat of abandonment.

F. Administrative Convenience is Not a Valid Reason for Imposing the Unfair, Unreasonable Burden of Examination on the Applicants

As made clear by the U.S. Court of Appeals for the Federal Circuit, although "[*p*]*er se* rules that eliminate the need for fact-specific analysis of claims and prior art may be administratively convenient for PTO examiners and the Board. Indeed, they have been sanctioned by the Board as well. But reliance on *per se* rules of obviousness is legally incorrect and must cease. Any such administrative convenience is simply inconsistent with section 103,

which, according to *Graham* and its progeny, entitles an applicant to issuance of an otherwise proper patent unless the PTO establishes that the invention *as claimed* in the application is obvious over cited prior art, based on the specific comparison of that prior art with claim limitations." *In re Ochiai*, 71 F.3d 1565, 37 U.S.P.Q.2d 1127, 1133 (Fed. Cir. 1995). "The obviousness inquiry is highly fact-specific and not susceptible to per se rules." *Litton Systems, Inc. v. Honeywell, Inc.*, 87 F.3d 1559(1), 1567(2), 39 U.S.P.Q.2d 1321, 1325 (Fed. Cir. 1996).

In the instant case, the Examiner's justification for the Administrative Requirement is the apparent burden of addressing and analyzing "millions of claim comparisons". As discussed above, the apparent burden of making claim comparisons is obviated by Applicants' extensive submissions to assist and simplify the Examiner's task of comparing claims. Further, as noted by *In re Ochiai*, administrative convenience is not a valid reason for avoiding a fact-specific analysis of claims necessitated by a proper obviousness-type double patenting rejection.

In *Transco Products Inc. v. Performance Contracting, Inc.*, 38 F.3d 551(1), 32 U.S.P.Q.2d 1077 (Fed. Cir. 1994), *cert. denied*, 513 U.S. 1151 (1995), the district court found that the failure to disclose a stainless steel, longitudinal placement mode in the patent specification violated the best mode requirement because an applicant must update the best disclosure upon each filing of a continuing application. However, the Federal Circuit held that it would be unfair and unreasonable to impose upon applicants an additional best mode burden with each filing of a continuation application. *Id.* at 1083. Further, the Federal Circuit held that

"[a]ctions . . . taken by the PTO primarily for administrative convenience, should not increase the burden on an applicant regarding his ability to obtain patent protection." *Id.*

Contrary to the Examiner's presumption, much of the analysis involved in the examination of the first of the related applications is directly applicable to the examination of the other related applications. Due to the overlap in search areas and relevant prior art, the allegation of an undue administrative burden suggested by the Examiner is simply not justified. No court has ever implied that inconvenience to the PTO could ever be an excuse for foregoing the actual examination of a patent application required for a double patenting rejection.[3]

[3] The PTO may impose an administrative requirement on patent applicants only under clearly defined and specified circumstances. When an application claims more than one independent and distinct invention, an examiner may impose a restriction requirement pursuant to 35 U.S.C. § 121 to ease the burden of examining that subject matter, thereby requiring an applicant to file one or more divisional applications. Under M.P.E.P. § 809.02(a), the examiner may identify each of the disclosed species, to which claims are restricted. However, in some cases, such as where a large number of claims exist or the species are not easily discernible, an examiner may identify at least exemplary ones of disclosed species. In such a case, an examiner may impose the duty of grouping the claims in appropriate species on an applicant for administrative convenience. The applicant in such circumstances is assisting the examiner in a formal procedural matter. The recognized PTO procedure of requiring an applicant to divide the claims into groups in response to a restriction requirement is clearly distinguishable from the Administrative Requirement imposed upon applicants. Under the examiner's Administrative Requirement in the pending application, the examiner is requiring substantive determinations of patentability from the applicants. This task of examination is statutorily reserved for the Examiner, 35 U.S.C. § 131. No authority exists in any part of the Patent Act for its imposition upon an applicant.

G. The Chart of Apparent Conflicts in the Claims is Insufficient to Support the Administrative Requirement

To the January 7, 2000, Office Action the Examiner attaches an Appendix A which the Examiner contends to be a demonstration of claim conflicts. Appendix A fails to demonstrate any conflicts between claims of the present application and claims of the co-pending applications. Rather, the Office Action Appendix A compares representative claims of other applications in attempt to establish that "conflicting claims exist between the 329 related co-pending applications." Absent any evidence of conflicting claims between the Applicants' present application and any other of Applicants' co-pending applications, any requirement imposed upon Applicants to resolve such alleged conflicts is improper.

H. The Examiner's Administrative Requirement is an Unlawfully Promulgated Substantive Rule Outside the Commissioner's Statutory Grant of Power

The Commissioner obtains his statutory rulemaking authority from Congress through the provisions of Title 35 of the United States Code. The broadest grant of rulemaking authority -- 35 U.S.C. § 6(a) -- permits the Commissioner to promulgate regulations directed only to "the conduct of proceedings in the [PTO]". This provision does NOT grant the Commissioner authority to issue substantive rules of patent law. *Animal Legal Defense Fund v. Quigg*, 932 F.2d 920, 930, 18 U.S.P.Q.2d 1677, 1686 (Fed. Cir. 1991).[4] Applicants respectfully submit that the

[4] Accord *Hoechst Aktiengesellschaft v. Quigg*, 917 F.2d 522, 526, 16 U.S.P.Q.2d 1549, 1552 (Fed. Cir. 1990); *Glaxo Operations UK Ltd. v. Quigg*, 894 F.2d 392, 398-99, 13 U.S.P.Q.2d 1628, 1632-33 (Fed. Cir. 1990); *Ethicon Inc. v. Quigg*, 849 F.2d 1422, 1425, 7 U.S.P.Q.2d 1152, 1154 (Fed. Cir. 1998).

Examiner's creation of a new set of requirements, allegedly derived from 37 C.F.R. § 1.78(b), constitutes an unlawful promulgation of a substantive rule in direct contradiction of a long-established statutory and regulatory scheme.

In analyzing whether the requirement is outside the Commissioner's authority, one must first determine whether the requirement as imposed by the PTO upon Applicants is substantive or a procedural rule. The Administrative Procedure Act offers general guidelines under which all administrative agencies must operate. A fundamental premise of administrative law is that administrative agencies must act solely within their statutory grant of power. *Chevron v. Natural Resources Defense Council*, 467 U.S. 837 (1984). The PTO Commissioner has NOT been granted power to promulgate substantive rules of patent law. *Merck & Co., Inc. v. Kessler*, 80 F.3d 1543 (Fed. Cir. 1996), citing, *Animal Legal Defense Fund v. Quigg*, 932 F.2d 920, 930, 18 U.S.P.Q.2d 1677, 1686 (Fed. Cir. 1991).

The appropriate test for such a determination is an assessment of the rule's impact on the Applicants' rights and interests under the patent laws. *Fressola v. Manbeck*, 36 U.S.P.Q.2d 1211, 1215 (D.D.C. 1995). As the PTO Commissioner has no power to promulgate substantive rules, the Commissioner receives no deference in his interpretation of the statutes and laws that give rise to the instant requirement. *Merck & Co., Inc. v. Kessler*, 80 F.3d 1543 (Fed. Cir. 1996), citing, *Chevron v. Natural Resources Defense Council*, 467 U.S. 837 (1984). When agency rules either (a) depart from existing practice or (b) impact the substantive rights and interests of the

effected party, the rule must be considered substantive. *Nat'l Ass'n of Home Health Agencies v. Scheiker*, 690 F.2d 932, 949 (D.C. Cir. 1982), *cert. denied*, 459 U.S. 1205 (1983).

1. The PTO Requirement is Substantive Because it Radically Changes Long Existing Patent Practice by Creating a New Requirement Upon Applicants Outside the Scope of 37 C.F.R. § 1.78(b)

The Examiner's Administrative Requirement is totally distinguishable from the well articulated requirement authorized by 37 C.F.R. § 1.78(b), because it (1) creates and imposes a new requirement to avoid abandonment of the application based on the allegation that conflicts exist between claims of the related 329 co-pending applications, and (2) it results in an effective final double patenting rejection without the PTO's affirmative double patenting rejection of the claims. Long existing patent practice recognizes only two types of double patenting, double patenting based on 35 U.S.C. § 101 (statutory double patenting) and double patenting analogous to 35 U.S.C. § 103 (the well-known obviousness type double patenting).[5] These two well established types of double patenting use an objective standard to determine when they are appropriate[6] and have a determinable result on the allowability of the pending claims.

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[5] M.P.E.P. § 804(B)(1) states, in an admittedly awkward fashion, that the inquiry for obviousness type double patenting is analogous to a rejection under 35 U.S.C. § 103: "since the analysis employed in an obvious-type double patenting determination parallels the guidelines for a 35 U.S.C. § 103 rejection, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis".

[6] The objective test for same invention double patenting is whether one of the claims being compared could be literally infringed without literally infringing the other. The objective test for obviousness type double patenting is the same as the objective nonobviousness

(continued . . .)

The Examiner's new Requirement represents a radical departure from long existing patent practice relevant to conflicting claims between co-pending applications of the same inventive entity. The two well established double patenting standards are based on the conduct an objective analysis of comparing pending and allowed claims. However, in the present application, there are no *allowed* claims nor has the Examiner conducted any objective analysis of the claims. The Examiner's new requirement to avoid double patenting rejection presumes that conflicts exist between claims in the present application and claims in the 328 co-pending applications. This presumption of conflicts between claims represents a radical departure from long existing patent practice as defined by 37 C.F.R. § 1.78(b), which states:

> Where two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application.

Clearly, the only requirement authorized by the rule is the elimination of conflicting claims from all but one application where conflicting claims have been determined to exist. Furthermore, in order to determine that conflicting claims do in fact exist in multiple applications, the only possible analysis is obviousness-type double patenting, since there are no allowed or issued claims by which to employ the 35 U.S.C. § 101 statutory double patenting analysis. Once obviousness-type double patenting analysis has been applied and conflicting claims have been determined to exist, M.P.E.P. § 804 I.B. mandates that only a *provisional*

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requirement of patentability with the difference that the disclosure of the first patent may not be
(continued . . .)

obviousness-type double patenting rejection is possible until claims from one application are allowed.

In summary, the Examiner's new Requirement departs from long-established practice because it (1) creates and imposes a new requirement to avoid abandonment of the application based on the allegation that conflicts exist between claims of the related 329 co-pending applications, and (2) it results in an effective final double patenting rejection without the PTO's affirmative double patenting rejection of the claims. As such, the Examiner's Requirement is a substantive rule beyond the authority of the PTO and is invalid.

2. The Administrative Requirement is also a Substantive Rule Because it Adversely Impacts the Rights and Interests of Applicants to Benefits of the Patent

The rights and benefits accorded to an owner of a U.S. patent are solely statutory rights. *Merck & Co., Inc. v. Kessler*, 80 F.3d 1543 (Fed. Cir. 1996). The essential statutory right in a patent is the right to exclude others from making, using and selling the claimed invention during the term of the patent. Courts have recognized that some purported new procedural rules of the PTO are actually substantive rules, e.g., when the new rule made a substantive difference in the ability of the applicant to claim his discovery. *Fressola v. Manbeck*, 36 U.S.P.Q.2d 1211, 1214 (D.D.C. 1995), citing, *In re Pilkington*, 411 F.2d 1345, 1349; 162 U.S.P.Q. 145 (C.C.P.A. 1969); and *In re Steppan*, 394 F.2d 1013, 1019; 156 U.S.P.Q. 143 (C.C.P.A. 1967).

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used as prior art.

The Administrative Requirement, on its face and as applied here, is an instance of a PTO rule resulting in a substantive difference in Applicants' ability to claim their invention and, therefore, must be considered a substantive rule. The Requirement denies Applicants' rights and benefits expressly conferred by the patent statute. The measure of the value of these denied rights and benefits is that the Requirement, as applied here, would deny Applicants the full and complete PTO examination of Applicants' claims on their merits, as specified by 37 C.F.R. § 1.105. To require Applicants to file terminal disclaimers in each related application terminally disclaiming each of the other applications based on the PTO's incomplete examination on the merits would deny Applicants the benefit of the full patent term of 17 years on each of the Applicants' respective applications. To require Applicants to resolve all conflicts compels them to narrow their claims without the benefit of a substantive determination regarding how others may potentially interpret Applicants' claims. Indeed, to require Applicants to resolve all potential conflicts, where no conflicts have been identified, denies Applicants the benefit of the full scope of the pending claims. Applicants respectfully submit that the Requirement has a huge impact on their rights and interests in the presently claimed invention.

3. Conclusion Regarding the Administrative Requirement

In summary, the imposition of the Administrative Requirement by the Examiner improperly shifts the burden of examination to the Applicants, is outside the scope of 37 C.F.R. § 1.78(b) and is totally unreasonable under the current circumstances. The Examiner presents no basis in the pending claims for the Requirement. Further, the Requirement is a change to long

existing practice and/or has a substantive impact on the rights and interests of Applicants to their invention. Since the Commissioner has no power to issue substantive rules, the Requirement is improper.

IV. The PTO's Delay in Issuing Responses is Contrary to the Guidelines Expressed in the M.P.E.P.

Applicants respectfully petition the Commissioner to invoke his supervisory authority to require the Examiner for this application and the examiners responsible for the related applications to consider this application and Applicants' related applications "special" and thus expedite the prosecution of these applications. Under M.P.E.P. § 708.01, applications pending more than 5 years, including those relating to a prior United States application, qualify as "special cases" and provides that such applications are advanced out of turn for examination. Accordingly, under M.P.E.P. § 707.02(a), the supervisory primary examiners responsible for these applications should make every effort to assure that the PTO takes prompt action to finally dispose of such applications, including monitoring the pendency of the application, locating the best references and carefully applying them, and generally expediting prosecution. In effect, every effort should be made to terminate the prosecution of a case having a pendency of more than 5 years.

The instant application was filed June 6, 1995, over four years ago, and has an effective pendency of more than five years and, therefore, qualifies as a "special case." In fact, this application has an effective pendency of more than 18 years, far more than the 5 years of pendency required for a case to be deemed "special," *see supra* Part II 1, and, therefore, is

entitled to expedited examination. In accordance with the M.P.E.P., the Examiner should act upon this application and the related applications without delay.

The record in this application, as demonstrated above, includes no indication that anyone exercising authority at the PTO has ever considered the present application or any related application to be "special" and treated it accordingly. To the contrary, before and after the issuance of U.S. Patent No. 5,887,243 in March, 1999, the PTO examiners responsible for these applications have purposefully delayed all actions regarding this application and Applicants' co-pending applications. In March 1999, another five of Applicants' related applications had been allowed and the issue fees had been paid. The senior PTO management overseeing the examination of Applicants' applications expressed the view that some unspecified claims in the allowed applications claims may be unpatentable over particular references or may be unsupported by the disclosure. At the June 16, 1999, interview, Director Dwyer indicated that these allowed applications should be issued if amendments were made to address the examiners concerns. However, in that interview the PTO provided no specific grounds for believing that any claim in these applications was unpatentable. Notwithstanding the absence of any substantive rejection, Applicants provided responses detailing the differences between the claims and the references mentioned by the examiners and detailing how the specifications support the claims. The response from Director Dwyer, was a letter withdrawing four of the five cases from issue. See *supra.* Part II 7. When withdrawing the applications from issue, Director Dwyer provided no specific reasons to support the alleged unpatentability of any of the withdrawn

claims. No action has been taken in the fifth case because it is allegedly misplaced at the PTO. Applicants submit that subjecting applications that have been allowed to further examination fails to constitute an effort to terminate prosecution and is thus totally contrary to the policy expressed in M.P.E.P. § 707.02(a). The effect of the withdrawal from issue is thus a further examination of four allowed applications in an attempt to justify the withdrawal itself. Applicants find this delay inexcusable and submit that it is contrary to the PTO's own rules regarding withdrawal of applications from issue and the handling of "special" cases.

Also, at the time of the issuance of the Patent No. 5,887,243, Applicants and the senior management overseeing Applicants' applications had agreed on the consolidation procedure to expedite the prosecution of the remaining unallowed applications. See *supra.* Part II 3. Under this procedure, Applicants expected that the PTO would act on each consolidated subject matter group after slightly over a month of consideration. However, over seven months passed between the consolidation of claims into the present application and any action by the PTO. The PTO issued an incomplete Office Action on October 19, 1999. In a November 1999, interview, attended by the Group Director, Applicants brought these deficiencies to the PTO's attention. See *supra.* Part II 6. As a result, the Office Action issued on October 19, 1999, was reissued nearly three months later on January 7, 2000. The reissued Office Action included supplemental rejections including the Administrative Requirement discussed above, which were not included in the original Office Action issued in October. See *supra.* Part II 10. Therefore, over ten months passed between the consolidation of the claims in the present application and the issuance of the

resulting Office Action. The only other Office Action issued in any related application was issued in the MULT application on January 14, 2000. The MULT Office Action had also been promised in early October, 1999. The PTO specifically promised that further office actions in related cases would issue shortly after the issuance of the action in the MULT application. To date, no further communication has been received in any of the related applications.

The consolidation process has failed to expedite the prosecution of these related applications. To the contrary, it has actually resulted in the effective suspension of the prosecution of the related applications while each subject matter grouping is considered in turn at a totally undisciplined pace. At the current rate of action by the PTO, the examination process for these applications will take many years. The outstanding Office Action in the present application was in response to Applicants' amendment to the claims. The amendment included new claims corresponding to claims cancelled from two co-pending applications directed to INTE subject matter. The claims were amended to enhance their clarity as discussed with the Examiners through the interview process. Specific specification support from the specification was provided for certain claims. Distinctions between pending claims and certain claims from Applicants' issued patents were enumerated upon the suggestion of the Examiners. Applicants' amendment made no substantive change to the scope of the claims. The amendment was primarily intended to consolidate claims and more clearly the define the INTE subject matter. Yet nearly a year passed before the PTO issued a complete office action in response to the amendment. This delay occurred despite the advancement of the prosecution of the instant

application through two prior substantive office actions in the instant application and similar prior consideration of the added claims transferred from the two now abandoned INTE applications. Applicants' claims have been repeatedly considered by the PTO. Numerous interviews have been conducted where the details of Applicants' claimed inventions have been explained. Further, Applicants have consolidated the pending claims into a limited number of applications at the request of the PTO. There is no practical impediment to the expeditious consideration of Applicants' remaining applications. The present procedure followed regarding the prosecution of these related applications is contrary to the mandate of M.P.E.P. § 707.02(a), which requires every effort be made to terminate the prosecution of these applications.

Applicants believe that the consolidation process can be conducted within the time limits which the PTO examiners proposed themselves in Exhibit F. This process will result in substantive actions regarding each subject matter group to be issued after a little over a month of concentrated consideration by the examiner assigned to each case. The process allows for input from Applicants to provide all information required for the Examiner to issue a prompt substantive action. Applicants note that some forty applications included claims that are presently under consideration by the PTO and are directed to subject matter which has been indicated to be allowable. See *supra.* Part II 5. Applicants submit that the consolidation process as originally conceived will result in the expeditious presentation of claims directed to allowable subject matter that may be promptly issued. The PTO should consider each consolidated subject matter group without delay. Applicants submit that a schedule including time limits to act on

each subject matter group must be adhered to in order to ensure that the consolidation process, which was agreed upon between Applicants and senior PTO management, meets the mandate of § 707.02(a) of the M.P.E.P.

Applicants specifically request supervisory authority over the actions of Director Dwyer. After repeated attempts by Applicants to encourage and facilitate prompt action on the applications by the examiners supervised by Director Dwyer, no improvement in the examination process is discernable. Director Dwyer's actions, in fact, have led to unreasonable delays in the prosecution of this application and related applications. For example, Director Dwyer had specifically promised Applicants that the PTO would issue an office action on the INTE and MULT claims in early October 1999. While the Examiner did issue an office action in the INTE application on October 19, 1999, that office action was deficient and had to be reissued with a supplemental rejection on January 7, 2000. The revised office action was so different in scope that it effectively required an entirely new response from Applicants. After numerous correspondence and inquiries, an office action in the MULT application was eventually received on January 14, 2000, more than three months after this issuance had been promised by Director Dwyer. See *supra.* Part II 10. On another occasion, after issuing notices of allowances on five related applications and after Applicants had paid the issue fee on all five applications, Director Dwyer authorized a withdrawal from issue of four of the applications. See *supra.* Part II 7. No action has been taken on the fifth as it is allegedly misplaced by the PTO. No explanation has been given for these severe actions nor has further action notifying applicants of the new status of

these applications issued as was promised in the notice of Withdrawal From Issue. Applicants' efforts to ease the burden of examining the many related co-pending applications have not been received by the examiners of Technology Center 2700 with a view to finally concluding the prosecution of these applications. Rather, Applicants' efforts have been used by Director Dwyer and the examiners of Technology Center 2700 under his supervision to delay prosecution while the examiners interminably ponder the merits of Applicants' applications.

Due to the lack of relief from Director Dwyer on numerous issues, Applicants request supervisory authority over Director Dwyer himself. In addition, due to the unreasonable delay on repeated occasions, Applicants request that an expedited schedule be imposed on Director Dwyer and the examiners under his supervision responsible for this application and other related applications to ensure that all these application are considered with the dispatch accorded to "special" applications. Such a schedule should impose a time limit prohibiting further delay in issuing Office Actions and other correspondence in this application and Applicants' related applications

V. Petition for Withdrawal of Requirement and Imposition of a Schedule

In conclusion, Applicants submit that the Examiner has exceeded the scope of his authority in improperly imposing requirements on the Applicants which are contrary to the Patent Act, and the PTO's rules and regulations. Applicants respectfully request that the Commissioner require the Examiner to withdraw the Requirement that Applicants: (1) file terminal disclaimers in each of the related 329 applications terminally disclaiming each of the other co-pending

applications; (2) provide an affidavit attesting to the fact that all claims in the co-pending applications have been reviewed by Applicants and that no conflicting claims exist between the applications; or (3) resolve all conflicts between claims in the co-pending applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the above identified 329 applications, which upon failing to do so will abandon the application.

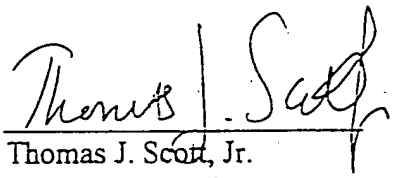
Under 37 C.F.R. § 1.105, § 1.106 and § 1.78(b), the Examiner has the duty to make every applicable rejection, including double patenting rejection. Failure to make every proper rejection denies Applicants all rights and benefits related thereto, e.g., Applicants' right to appeal, etc. Once obviousness-type double patenting analysis has been applied and conflicting claims have been determined to exist, only a *provisional* obviousness-type double patenting rejection is possible until claims from one application are allowed.

Further, Applicants respectfully request that the Commissioner impose a schedule on the examiners supervised by Director Dwyer expediting the examination of this application and related applications. Although Applicants have provided comprehensive submissions to assist the examiners in comparing and analyzing the claims, the examiners have continued to neglect the examination of these applications resulting in compounded delays. Thus, Applicants respectfully request that a schedule be imposed on Director Dwyer requiring compliance with the PTO's commitment to proper disposition of applications that have been pending for more than 5 years.

The PTO has delayed the examination of this and the related applications for far too long. Further delay is unconscionable. The Commissioner should impose a schedule on Technology Center 2700 requiring prompt examination and disposition of these applications. Applicants suggest that the Commissoner require that all consolidated groupings have an initial Office Action within thirty days of the grant of this Petition and that a further Office Action be issued within thirty days of the receipt of any Response or Amendment to such initial Office Action.

Respectfully submitted,

HUNTON & WILLIAMS

By: 
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/470,571
Filed	:	June 6, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

WITHDRAWAL OF PETITION UNDER 37 C.F.R. § 1.181 FILED MARCH 7, 2000

Commissioner for Patents
Washington, DC 20231

Sir:

In a Petition to the Commissioner under 37 C.F.R. § 1.181 filed March 7, 2000 (the Petition) and in an Amendment and Request for Reconsideration under 37 C.F.R. § 1.111 filed June 7, 2000 (June 2000 Amendment), applicants set forth reasons why the "Administrative Requirement" imposed in the Office action mailed January 7, 2000 is improper. Applicants maintain the view that the Administrative Requirement is improper. However, to advance the prosecution of this application, applicants hereby agree to comply with the Administrative Requirement at such time that applicants receive written notification that this application is otherwise in condition for allowance. Applicants' compliance will take the form of one of the following actions:

(1) filing terminal disclaimers in each of the related co-pending applications terminally disclaiming each of the other co-pending applications;

(2) providing an affidavit attesting to the fact that all claims in the co-pending applications have been reviewed by applicant and that no conflicting claims exists between the applications; or

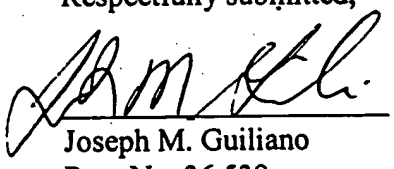
(3) resolving all conflicts between claims in the identified co-pending applications by identifying how all the claims in the instant application are distinct and separate inventions from all the claims in the identified co-pending applications.

Also in the Petition, applicants assert that the pace of action by the United States Patent and Trademark Office (Office) has been contrary to the guidelines expressed in the Manual of Patent Examining Procedure. Applicants therefore requested the imposition of a schedule including time limits prohibiting delay in issuing Office actions and other correspondence in this and applicants' co-pending applications. Applicants are now of the view that the reason for this request has been rendered moot, given the large number of communications recently received from the Office relating to applicants' co-pending applications. Applicants therefore withdraw the request for imposition of a schedule.

Accordingly, applicants hereby withdraw the Petition in its entirety.

Date: March 7, 2002

Respectfully submitted,



FISH & NEAVE
1251 Avenue of the Americas
New York, New York 10020

Joseph M. Guiliano
Reg. No. 36,539
Phone No. 212-596-9000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	:	John C. Harvey and James W. Cuddihy
Serial No.	:	08/470,571
Filed	:	June 6, 1995
For	:	SIGNAL PROCESSING APPARATUS AND METHODS
Group Art Unit	:	2614
Examiner	:	Harvey, D.

Commissioner for Patents
Washington, D.C. 20231

INTERVIEW SUMMARY

Sir:

The undersigned attorney wishes to thank the Supervisory Patent Examiner for the courtesies extended during the telephonic interview held on February 8, 2002 in connection with the above-referenced application and applicants' related copending applications listed below:

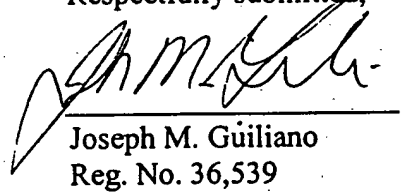
08/438,011	08/447,380	08/449,302	08/460,081 *	08/474,119 *	08/479,524 *
08/444,758	08/447,611 *	08/449,530	08/460,256 *	08/474,496 *	08/482,574 *
08/444,787 *	08/447,679	08/449,652 *	08/460,556	08/474,674 *	08/482,857
08/445,045	08/447,908	08/449,901 *	08/460,592 *	08/475,341 *	08/485,507 *
08/445,054 *	08/447,938 *	08/459,218 *	08/460,634 *	08/477,547	08/486,266 *
08/445,296 *	08/447,974	08/459,507 *	08/460,817	08/478,544	08/487,155 *
08/446,124 *	08/448,175 *	08/459,521	08/472,066	08/479,215	08/487,397
08/446,553	08/448,251	08/459,522	08/472,462 *	08/479,375 *	08/487,411
08/446,579 *	08/449,097	08/459,788	08/473,997 *	08/479,523 *	08/487,428 *

During the interview, the Supervisory Patent Examiner informed the undersigned attorney that applicants' replies filed on August 21, 2001 responsive to the March 21, 2001 Notices of Non-responsiveness mailed in connection with the applications listed above constitute complete responses to any outstanding rejections based on an alleged

failure to comply with the Administrative Requirement (although no agreement was reached as to whether or not applicants' arguments would be deemed persuasive). In addition, the Supervisory Patent Examiner and the undersigned attorney agreed that the filing of applicants' Withdrawal Of Petition Under 37 C.F.R. Section 1.181 Filed March 7 2000 (submitted herewith in connection with application Ser. No. 08/470,571) would render moot the issue of applicants' compliance with the Administrative Requirement in each of the applications listed above. The Supervisory Patent Examiner informed the undersigned attorney that the PTO would mail communications in connection with each of the applications listed above confirming that those applications remain pending. Furthermore, each such communication mailed by the PTO in connection with an application designated as a "B" application will confirm that prosecution of such "B" application will be suspended pending the outcome of prosecution of the corresponding "A" application (applications designated as "B" applications are identified by an asterisk in the above list).

Date: March 7, 2002

Respectfully submitted,



Joseph M. Guiliano
Reg. No. 36,539
Phone No. 212-596-9000

FISH & NEAVE
1251 Avenue of the Americas
New York, New York 10020

TJS/CLB

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/435,757	05/09/1995	JOHN C. HARVEY	5634.036	4555

21967 7590 03/21/2002

HUNTON & WILLIAMS
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER	
MEHTA, BHAVESH M	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 03/21/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

REVIEWED

MAR 26 2002

PTO-90C (Rev. 07-01)

Interview Summary	Application No.	Applicant(s)	
	08/435757	HARVEY ET AL.	
	Examiner	Art Unit	
	Andrew Faile	2611	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Andrew Faile*. (3)_____.

(2) *Joseph Guiliano(Reg. No. 36,539)*. (4)_____.

Date of Interview: *05 March 2002* .

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____ .

Claim(s) discussed: *n/a* .

Identification of prior art discussed: *n/a* .

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *See Continuation Sheet* .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

i)☐ It is not necessary for applicant to provide a separate record of the substance of the interview(if box is checked).

Unless the paragraph above has been checked, THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

ANDREW FAILE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case unless both applicant and examiner agree that the examiner will record same. Where the examiner agrees to record the substance of the interview, or when it is adequately recorded on the Form or in an attachment to the Form, the examiner should check the appropriate box at the bottom of the Form which informs the applicant that the submission of a separate record of the substance of the interview as a supplement to the Form is not required.

It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments:

The Supervisory Patent Examiner has reviewed the attachments mailed with the Notice of Nonresponsiveness dated September 10, 2001. The attachments appear to contain numerous allegations directed to applicants' and applicants' counsels' conduct in prosecuting the instant and related applications. In accordance with Section 2010 of the MPEP, the USPTO has not conducted any investigation of the allegations set forth in the attachments. Accordingly, the Supervisory Patent Examiner has determined that the allegations made in and the conclusions drawn from the attachments are unrelated to the issue of patentability of the subject matter claimed in applicants' pending applications and were not made pursuant to a duty of the Examiner imposed by law. The September 10, 2001 Notice of Nonresponsiveness is hereby withdrawn.

The Supervisory Patent Examiner acknowledges that papers similar to or the same as the attachments to the September 10, 2001 Notice of Nonresponsiveness were mailed, or may have been referred to, in connection with applicants' copending applications identified below. Any inconvenience to applicants is regretted. Applicants are hereby notified that a copy of this Interview Summary will be made of record in each of the applications noted below. No further action is required to the Notice of Nonresponsiveness in this or any of the application serial numbers noted below.

08/397636
08/474964
08/449263
08/488439
08/485283
08/487851
08/435757
08/470448
08/446494
08/469612
08/113329

08/437791
08/452395
08/449523
08/474146
08/449532
08/473484
08/441880
08/474139
08/459216
08/488378
08/437864

08/441701
08/446431
08/449281
08/477805
08/475342
08/486258
08/444756
08/487408
08/511491
08/498002

Scott, Tom

From: Scott, Tom
Sent: Tuesday, November 02, 1999 11:43 AM
To: 'James L. Dwyer'
Subject: Status of Pending United States Harvey et al. Applications
Importance: High

Director Dwyer,

Thank you for the information which you provided during our telephone conversation on Monday, October 18, 1999. I am writing to inquire as to the status of the various Office Actions which you indicated would be mailed during the week of October 18,1999. We did receive the Office Action of the INTE claims which was mailed October 19, 1999. However, to date, we have not received any actions in the four allowed applications or on the MULT claims. When does the USPTO believe that those will be issued or have they been delayed in the mail?

You also indicated in our conversation that the USPTO would set a schedule for further consideration of the other claim groupings in the now consolidated applications. I am available at any time to discuss that matter with you either over the telephone or in an interview, which ever would be the most effective way to set a schedule.

From: Scott, Tom
Sent: Thursday, October 14, 1999 3:52 PM
To: 'James L. Dwyer'
Cc: 'Jay Lecher'; 'Jay Lecher (Home Office)'
Subject: Pending United States Harvey et al. Applications
Importance: High

Director Dwyer,

Thank you for your recent e-mail. Will PMC hear on the MULT grouping on Monday also? That grouping was originally being evaluated by the USPTO along the INTE grouping. Have they been delinked in the USPTO's consideration of PMC's claims groupings?

Tom Scott

From: Dwyer, James[SMTP:James.Dwyer@USPTO.GOV]
Sent: Thursday, October 14, 1999 4:26 PM
To: 'TScott@hunton.com'
Subject: RE: Pending United States Harvey et al. Applications

I have spoken with Mr. Faile, the Office action on the INTE has been finished with only a final review to be completed and will be mailed Monday, please call me Monday at 3:30 (703-305-4800) to confirm. Also on Monday I will make the final decision on the cases that were pulled from issue. During the upcoming week I plan to have a schedule of examination of the other designated groups to share with you, Jim

> -----Original Message-----
> From: TScott@hunton.com [SMTP:TScott@hunton.com]
> Sent: Thursday, October 14, 1999 3:08 PM
> To: james.dwyer@uspto.gov
> Cc: jlecher@doubled.com; lecherj@howrey.com
> Subject: Pending United States Harvey et al. Applications
>

> Director Dwyer,
> Thank you for your prompt response. I have a meeting in the office beginning at 5:15 PM. Otherwise, I should be available all afternoon at (202) 955-1685.
>
> > ———
> > From: Dwyer, James[SMTP:James.Dwyer@USPTO.GOV]
> > Sent: Thursday, October 14, 1999 8:54 AM
> > To: 'TScott@hunton.com'; Dwyer, James
> > Cc: jlecher@doubled.com; lecherj@howrey.com
> > Subject: RE: Pending United States Harvey et al. Applications
> >
>I will have a full response by this afternoon, I apologize for the delay, Jim
> >
> > > —Original Message—
> > > From: TScott@hunton.com [SMTP:TScott@hunton.com]
> > > Sent: Wednesday, October 13, 1999 1:19 PM
> > > To: james.dwyer@uspto.gov
> > > Cc: jlecher@doubled.com; lecherj@howrey.com
> > > Subject: Pending United States Harvey et al. Applications
> > > Importance: High
> > >
> Thank you for your response. Is there any information on when PMC can expect the USPTO to act on its Rule 312 submissions and the INTE/MULT claims?
> > >
> > > > ———
> > > > From: Dwyer, James[SMTP:James.Dwyer@USPTO.GOV]
> > > > Sent: Wednesday, October 06, 1999 8:23 AM
> > > > To: 'TScott@hunton.com'
> > > > Cc: lecherj@howrey.com
> > > > Subject: RE: Pending United States Harvey et al. Applications
> > > >
>I will find out this information for you, Jim
> > > >
> > > > > —Original Message—
> > > > > From: TScott@hunton.com [SMTP:TScott@hunton.com]
> > > > > Sent: Tuesday, October 05, 1999 12:53 PM
> > > > > To: james.dwyer@uspto.gov
> > > > > Cc: lecherj@howrey.com
> > > > > Subject: Pending United States Harvey et al. Applications
> > > > > Importance: High
> > Director Dwyer,
> Our client, PMC, has asked us to inquire as to when the PTO will act on the INTE/MULT applications and applicants' August 5th Rule 312 submissions on the allowed Harvey et al. applications. As ever, Jay Lecher [(202) 383-6790] and I [(202) 955-1685] are available to answer any questions which you or any of the Examiner have on these applications. If you can let us know when the PTO actions on these applications will be available, Jay Lecher can pick them up. The PTO does not need to mail them.

Scott, Tom

From: Dwyer, James[SMTP:James.Dwyer@USPTO.GOV]
Sent: Wednesday, November 03, 1999 7:15 AM
To: 'TScott@hunton.com'
Subject: RE: Interview re Scheduling Further Consideration of Harvey et al . Pa tent Applications

I will check with Andy, I am offsite the rest of today, so look for my response early on Thursday, thanks, Jim

> ----Original Message----
> From: TScott@hunton.com [SMTP:TScott@hunton.com]
> Sent: Tuesday, November 02, 1999 5:14 PM
> To: james.dwyer@uspto.gov
> Subject: Interview re Scheduling Further Consideration of Harvey et al. Patent Applications
> Importance: High
>
> Mr. Lecher and I are available for an interview Thursday afternoon, 11/4/99 or anytime Friday or Monday 11/5/99 or 11/8/99. We are also available Tuesday afternoon, 11/9/99.

Scott, Tom

From: Scott, Tom
Sent: Thursday, November 04, 1999 11:53 AM
To: 'James L. Dwyer'
Cc: Faile, Andrew; 'Jay Lecher'
Subject: Interview re Scheduling Further Consideration of Harvey et al . Patent Applications
Importance: High

That time is fine with us. Jay Lecher and I will see you and Examiner Faile tomorrow.

From: Dwyer, James[SMTP:James.Dwyer@USPTO.GOV]
Sent: Thursday, November 04, 1999 8:16 AM
To: 'TScott@hunton.com'
Cc: Faile, Andrew
Subject: RE: Interview re Scheduling Further Consideration of Harvey et al . Patent Applications

12:30 Friday in Park II , 8th floor 8A28 conference room.....okay with you?

> -----Original Message-----
> From: TScott@hunton.com [SMTP:TScott@hunton.com]
> Sent: Tuesday, November 02, 1999 5:14 PM
> To: james.dwyer@uspto.gov
> Subject: Interview re Scheduling Further Consideration of Harvey et
> al. Pa tent Applications
> Importance: High
>
> Mr. Lecher and I are available for an interview Thursday afternoon, 11/4/99 or anytime Friday or Monday 11/5/99 or 11/8/99. We are also available Tuesday afternoon, 11/9/99.

Chart Identifying Support for Each Claim in the Specification

5. **(Three Times Amended)** A method of controlling	Page 40, lines 17 - 20	The signals of the present invention are the modalities whereby stations that originate programming transmissions control the handling, generating, and displaying of programming at subscriber stations.
	For example, page 452, lines 26 - 30	... any given SPAM message that causes a combining specifies the identity of the particular overlay information whose combining it causes and causes a combining only at subscriber station where information exists of the completion of the identified overlay.
	Page 374, line 32 - page 375, line 2	In example #10, a particular program originating studio transmits the commercial of program unit Q in a network transmission and controls a plurality of intermediate transmission stations each of which controls, in turn, a plurality of subscriber stations that are ultimate receiver stations.
a receiver station,	Page 480, lines 14 - 17 See Fig. 7E.	In so doing, receiving said message causes matrix switch, 258, to interconnect the apparatus of said station in the fashion of Fig. 7E.
	Page 34, lines 21 - 28 Fig. 2A is referenced in Fig. 7E.	Fig. 2A shows a TV signal decoder that detects signal information embedded in an inputted television frequency, renders said information into digital signals that subscriber station apparatus can process, identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus. Decoder, 203, in Fig. 1 is one such TV signal decoder; decoder, 30, in Fig. 2 is another.
	Page 36, lines 32 - 33 See Fig. 2A.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.

	Page 156, line 33 - page 157, line 10. See Fig. 3A.	Fig. 3A shows one such preferred controller, 39. One aspect of the preferred embodiment of controller, 39, is a series of buffers and processors at which forward error correction, protocol conversion, and the invoking of controlled functions take place in series. Buffer, 39A, and processor, 39B, are the first buffer and processor of the series and perform the forward error correcting functions of controller, 39. Buffer, 39C, and processor, 39D, are the second buffer and processor and perform protocol conversion functions. Buffer, 39E, and control processor, 39J, are the third buffer and processor. All controlled functions invoked at controller, 39, by received SPAM signals are invoked at control processor, 39J.
	More specifically, page 514, line 32 - page 515, line 2.	(In addition to the above described functioning, transmitting said messages in examples #9 and #10 causes apparatus at subscriber stations of particularly slow microcomputers, 205, said field distribution system, 93, to function in the restoring efficiency fashion described above.
said receiver station including a receiver,	Page 34, lines 18 - 20	Signal decoder apparatus such as decoder, 203, in Fig. 1 and decoders, 30 and 40, in Fig. 2 are basic in the unified system of this invention.
	For example, page 35, line 7	... a standard line receiver, 33, well known in the art.
a memory operatively connected to said receiver, and at least one processor operatively connected to said memory, said method comprising	Page 36, lines 32 – 33. See Figs. 2A-2C.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.

the steps of:{PRIVATE }		
	Also pertinent, page 19, line 6 - page 20, line 8	Fig. 1 shows a video/computer combined medium subscriber station. Via conventional antenna, the station receives a conventional television broadcast transmission at television tuner, 215. The Model CV510 Electronic TV Tuner of the Zenith Radio Corporation of Chicago, Illinois, which is a component of the Zenith Video Hi-Tech Component TV system, is one such tuner. This tuner outputs conventional audio and composite video transmissions. The audio transmission is inputted to TV monitor, 202M. The video transmission is inputted to video transmission divider, 4, which is a conventional divider that splits the transmission into two paths. One is inputted continuously to TV signal decoder, 203, and the other to microcomputer, 205. TV signal decoder, 203, which is described more fully below, has capacity for receiving a composite video transmission; detecting digital information embedded therein; correcting errors in the received information by means of forward error checking techniques, well known in the art; converting the received information, as may be required, by means of input protocol techniques, well known in the art, into digital signals that microcomputer, 205, can receive and process and that can control the operation of microcomputer, 205; and transferring said signals to microcomputer, 205. Microcomputer, 205, is a conventional microcomputer system with disk drives that is adapted to have capacity for receiving signals from decoder, 203; for generating computer graphic information; for receiving a composite video transmission; for combining said graphic

		information onto the video information of said transmission by graphic overlay techniques, well known in the art; and for outputting the resulting combined information to a TV monitor, 202M, in a composite video transmission. One such system is the IBM Personal Computer of International Business Machines Corporation of Armonk, New York with an IBM Asynchronous Communications Adapter installed in one expansion slot and a PC-MicroKey Model 1300 System with Techmar Graphics Master Card, as supplied together by Video Associates Labs of Austin, Texas, installed in two other slots.
receiving an information transmission including	Page 484, lines 2 – 8 (emphasis added)	... causing each intermediate transmission station, including the station of Fig. 6 ... to transmit its specific program-instruction-set message (#10), as described above. Receiving the specific ***program-instruction-set message (#10)*** of its intermediate transmission station causes ...
	Page 385, lines 9 – 34 (emphasis added)	... causes each of said computers, 73, to generate a second outbound SPAM message that includes information of the program instruction set at its program-set-to-transmit RAM memory and to cause said message to be transmitted to its field distribution system, 93. (Hereinafter, the second outbound SPAM message of any given one of said SPAM computers, 73, is called a ***"program- instruction-set message (#10)"***, ...) ... Then, automatically, each of said computers, 73, selects and transmits to the generator, 82, of its station, information of ***a "01" header;*** information of ***a particular SPAM execution segment*** that is addressed to URS microcomputers, 205; its retained meter-monitor information; any required padding bits; complete

		information of the program instruction set that is at its program-set-to transmit RAM memory; and information of a SPAM end of file signal. Said selected and transmitted information that each of said computers, 73, transmits is complete information of the particular ***program-instruction-set message (#10)*** of said computer, 73.
	Page 382, lines 2 - 5	... computers, 73, each to load the information of said files, PROGRAM.EXE and DATA_OF.ITS, at particular program-set-to- transmit and data-set-to-transmit RAM memories of computer, 73, ...
processor instructions	Page 15, lines 7 - 9	In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, in accordance with instructions in the signals ...
	Page 44, lines 14 - 25	A command is an instance of signal information that is addressed to particular subscriber station apparatus and that causes said apparatus to perform a particular function or functions. A command is always constituted of at least ***a header and an execution segment.*** With respect to any given command, its execution segment contains information that specifies the apparatus that said command addresses and specifies a particular function or functions that said command causes said apparatus to perform. (Hereinafter, functions that execution segment information causes subscriber station apparatus to perform are called "controlled functions.")
	Page 45, line 10 *et seq.*	... commands are identified by one of three binary headers:
and a program;	Page 484, lines 9 - 10	... the PROGRAM.EXE information in said message ...

performing an error correction routine by processing at least a portion of said information transmission;	Page 484, lines 12 - 15	... receiving the program- instruction-set message (#10) ... causes decoder, 203, to ...
	Page 480, ll. 14-17	In so doing, receiving said message causes matrix switch, 258, to interconnect the apparatus of said station in the fashion of Fig. 7E.
	Page 34, ll. 21-28	Fig. 2A shows a TV signal decoder that detects signal information embedded in an inputted television frequency, renders said information into digital signals that subscriber station apparatus can process, identifies the particular apparatus to which said signals are addressed, and outputs said signals to said apparatus. Decoder, 203, in Fig. 1 is one such TV signal decoder; decoder, 30, in Fig. 2 is another.
	Page 36, ll. 32-33	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
	Page 156, line 33 - page 157, line 5. See Figs. 2A and 3A.	Fig. 3A shows one such preferred controller, 39. One aspect of the preferred embodiment of controller, 39, is a series of buffers and processors at which forward error correction, protocol conversion, and the invoking of controlled functions take place in series. Buffer, 39A, and processor, 39B, are the first buffer and processor of the series and perform the forward error correcting functions of controller, 39.
programming said receiver station to perform	On the one hand, page 484, lines 12 – 18 (emphasis added)	At the station of Figs. 7 and 7F, receiving the program- instruction-set message (#10) transmitted by the intermediate transmission station of Fig. 6 causes said message to be detected at decoder, 203, and causes decoder, 203, to load ... at

		microcomputer, 205, the information segment of said message (which is the ***program instruction set*** of Q.1 and is the output file, PROGRAM.EXE, of said station).
	On the other hand, page 120, line 23	... preprogrammed conditional-overlay-at-205 instructions.
a failure handling routine	On the one hand, page 453, lines 2 – 24 (emphasis added)	Finally, in order to cause microcomputers, 205, that fall behind to catch up, a particular fashion exists in the preferred embodiment for restoring efficient operations. Microcomputers, 205, that fall behind are caused to jump over and avoid executing instructions that control the generating of overlay information (such as Fig. 1A) whose overlay time (that is, combining time) has passed. In a fashion well known in the art, selected so-called "lines of code" of ***program instruction sets*** are preprogrammed with label information that identifies each one of said line, and the instructions of said set periodically compare preprogrammed information of said set to information at particular overlay- target RAM memory in order to control efficient operation in a fashion described more fully below. When a combining fails to occur at any given station because information of the completion of an identified overlay does not exist at said station, the controller, 203, of said station automatically causes the microcomputer, 205, to so-called "jump", in a jump fashion well known in the art, to that selected one of said lines of code where the instructions of said program instruction set commence causing the generation of the information of that particular overlay that is next to be combined.
	Page 454, lines 10 - 18	At other stations that have not completed generating at RAM the information of said first overlay (eg., Fig. 1A), matches

		do not result, causing the controllers, 39, of the decoders, 203, of said stations to execute the aforementioned particular second-condition-test-failed instructions of the aforementioned conditional-overlay-at-205 instructions. Executing said second-condition-test-failed instructions causes ...
	On the other hand, Page 234, lines 12-29	(At those subscriber stations where the information of the program unit field in the meter-monitor information of said second message fails to match information at SPAM-first- precondition register memory--including all stations that are preprogrammed with decryption key information of J but not with decryption key information of Z--particular first-condition-test-failed instructions of said conditional- overlay-at-205 instructions cause the control processors, 39J, of said stations to enter "0" at each of the aforementioned SPAM-Flag-first-condition-failed and SPAM- Flag-do-not-meter register memories, which memories are each normally "1"; to cause all SPAM information at the main and video RAMs of the microcomputers, 205, of said stations to be cleared; and to complete all conditional-overlay-at-205 instructions and, in so doing, to complete all controlled functions invoked by said second message at the secondary control level.)
in accordance with said processor instructions of said information transmission as corrected in said step of performing;	Page 15, lines 7 - 9	In the present invention, particular signal processing apparatus (hereinafter called the "signal processor") detect signals and, in accordance with instructions in the signals ...
	More specifically, page 452, lines 26 - 30	... any given SPAM message that causes a combining specifies the identity of the particular overlay information whose

		combining it causes and causes a combining only at subscriber station where information exists of the completion of the identified overlay.
	For example, page 514, line 32 - page 515, line 2	(In addition to the above described functioning, transmitting said messages in examples #9 and #10 causes apparatus at subscriber stations of particularly slow microcomputers, 205, said field distribution system, 93, to function in the restoring efficiency fashion described above. Receiving each of said commence-outputting messages causes ...
discerning a failure	Page 452, line 26 - page 453, line 2	... any given SPAM message that causes a combining specifies the identity of the particular overlay information whose combining it causes and causes a combining only at subscriber station where information exists of the completion of the identified overlay. For example, receiving the second message of the "Wall Street Week" program causes the combining of Fig. 1A information and Fig. 1B information only at stations where information at the aforementioned SPAM-first-precondition and SPAM-second-precondition register memories matches selected information of the meter-monitor segment of said message.
	More specifically, page 454, lines 10 - 16	At other stations that have not completed generating at RAM the information of said first overlay (eg., Fig. 1A), matches do not result, causing the controllers, 39, of the decoders, 203, of said stations to execute the aforementioned particular second-condition-test-failed instructions of the aforementioned conditional-overlay-at-205 instructions.
	More specifically, page 234, lines 12 - 19	(At those subscriber stations where the information of the program unit field in the meter-monitor information of said second message fails to match information

		at SPAM-first- precondition register memory ... particular first- condition-test-failed instructions of said conditional-overlay-at-205 instructions cause ...
	For example, page 514, line 32 - page 515, line 5	(In addition to the above described functioning, transmitting said messages in examples #9 and #10 causes apparatus at subscriber stations of particularly slow microcomputers, 205, said field distribution system, 93, to function in the restoring efficiency fashion described above. Receiving each of said commence-outputting messages causes a decoder, 203, of at least one of said stations to input particular second-condition-test-failed instructions to its associated microcomputer, 205, causing said microcomputer, 205, to ...
evidencing at least one of incomplete programming	Page 453, lines 15 - 17	... fails to occur at any given station because information of the completion of an identified overlay does not exist ...
	Page 454, lines 11 - 12	... stations that have not completed generating at RAM the information of said first overlay ...
and an incorrect	Page 234, lines 12 - 19	(At those subscriber stations where the information of the program unit field in the meter-monitor information of said second message fails to match information at SPAM-first- precondition register memory--including all stations that are preprogrammed with decryption key information of J but not with decryption key information of Z--particular first-condition-test-failed instructions of said conditional- overlay-at-205 instructions cause ...
	For example, page 226, lines 2 - 10	... only at those subscriber stations where the encrypted information of the first message has been decrypted, causing the apparatus of said stations to load and execute program instruction set

		information at the microcomputers, 205. Only at said stations does "program unit identification code" information of said "Wall Street Week" program exist at the SPAM-first- precondition register memories of the control processors, 39J.
program element in said memory	Page 41, lines 20 - 25	The information of SPAM signals includes data, computer program instructions, and commands. ... Commands ... often execute computer programs or control steps in programs already in process.
	Page 60, lines 19 - 21	SPAM messages are composed of elements--headers, execution segments, meter-monitor segments, and information segments ...
	Page 36, lines 32 – 33. See Fig. 3A.	Each decoder is controlled by a controller, 39, 44, or 47, that has buffer, microprocessor, ROM, and RAM capacities.
by processing information received in said information transmission as corrected in said step of performing; and	Page 157, lines 20 – 24 (emphasis added). See Fig. 3A.	***Control processor, 39J,*** can invoke and process the controlled function of a first signal word while ... processor, 39B, corrects the information of a third signal word.
	Page 160, lines 3 – 30 (emphasis added)	The register memories of ***control processor, 39J,*** include ... ***SPAM-first-precondition, SPAM-second-precondition,*** ... and SPAM-address-of-next-instruction-upon- secondary-interrupt register memories whose functions are described below; and a plurality of working register memories that include first-working and second-working register memories.
	Page 159 line 30 - p. 160 line 19, especially page 160, lines 18-19	Control processor, 39J, has capacity for computing information and processing all control information necessary for controlling all apparatus of

		decoder, 203 (or such other decoder as the controller of a given control processor, 39J, may be installed in). In keeping with the function of control processor, 39J, as the processor at which all controlled functions of controller, 39, are invoked, all aforementioned particular register memories of controller, 39, are located at control processor, 39J. The register memories of control processor, 39J, include (but are not limited to) particular SPAM-input-signal register memory whose length in bit locations is sufficient to contain the longest possible instance of SPAM command information with associated padding bits; ... the aforementioned SPAM-length-info, SPAM-mm-format, SPAM-first-precondition, SPAM-second- precondition
executing said failure handling routine in consequence of said step of discerning a failure;	Page 453, lines 15 - 24	When a combining fails to occur at any given station because information of the completion of an identified overlay does not exist at said station, the controller, 203, of said station automatically causes the microcomputer, 205, to so-called "jump", in a jump fashion well known in the art, to that selected one of said lines of code where the instructions of said program instruction set commence causing the generation of the information of that particular overlay that is next to be combined.
	Page 234, lines 12 - 34	(At those subscriber stations where the information of the program unit field in the meter-monitor information of said second message fails to match information at SPAM-first-precondition register memory ... particular first- condition-test-failed instructions of said conditional- overlay-at-205 instructions cause the control processors, 39J, of said stations to ... complete all conditional-overlay-at-205 instructions and, in so doing, to complete

		all controlled functions invoked by said second message at the secondary control level.) So resulting in a match, under control of the conditional-overlay-at-205 instructions at the station of Fig. 3, causes control processor, 39J, then, to execute the aforementioned locate-overlay-number instructions and locate the overlay number field in the meter-monitor information of said second message in the fashion described above ...
wherein said method controls said receiver station.	Page 40, lines 17 - 20	The signals of the present invention are the modalities whereby stations that originate programming transmissions control the handling, generating, and displaying of programming at subscriber stations.
	For example, page 514, line 32 - page 515, line 2	(In addition to the above described functioning, transmitting said messages in examples #9 and #10 causes apparatus at subscriber stations of particularly slow microcomputers, 205, said field distribution system, 93, to function in the restoring efficiency fashion described above. Receiving each of said commence-outputting messages causes ...

From: Guiliano, Joseph M. [mailto:JGuiliano@fishneave.com]
Sent: Friday, August 15, 2003 2:53 PM
To: 'Faile, Andrew '
Subject: RE: Harvey Applications

Dear Mr. Faile,

Thank you for the update. I look forward to hearing from you.

Sincerely,
Joe Guiliano

-----Original Message-----
From: Faile, Andrew
To: JGuiliano@fishneave.com
Sent: 8/15/2003 1:23 PM
Subject: RE: Harvey Applications

Mr. Guiliano,

We are still reviewing the request below. I'll get back with you as soon as there is an answer on this.

Sincerely,
Andrew Faile

-----Original Message-----
From: JGuiliano@fishneave.com [mailto:JGuiliano@fishneave.com]
Sent: Thursday, August 07, 2003 1:40 PM
To: Andrew.Faile@USPTO.GOV
Subject: RE: Harvey Applications

Thank you, Mr. Faile. I look forward to hearing from you.

-----Original Message-----
From: Faile, Andrew [mailto:Andrew.Faile@USPTO.GOV]
Sent: Thursday, August 07, 2003 1:28 PM
To: JGuiliano@fishneave.com
Subject: RE: Harvey Applications

Mr. Guiliano,

I have received your email and certainly will consider the points therein. I hope to get back to you with a response by the end of next week.

Sincerely,
Andrew Faile

-----Original Message-----
From: JGuiliano@fishneave.com [mailto:JGuiliano@fishneave.com]
Sent: Thursday, August 07, 2003 12:19 PM
To: andrew.faile@uspto.gov
Subject: Harvey Applications

Dear Mr. Faile,

Thank you for taking the time on Tuesday to discuss the status of the Harvey continuation applications. I have given careful consideration to your proposal to suspend prosecution of the continuation applications in view of the third party reexamination requests that have been filed with respect to several of the issued Harvey patents. I firmly believe that suspension of all of the applications is unnecessary and improper. The advanced state of prosecution of at least two of the 1981-based applications (INTE and MULT) and many of the 1987-based applications should permit prosecution of those applications to continue without interfering with the reexaminations. All of the pending continuation applications are to be treated as "special" under M.P.E.P. Sec. 708.01 by virtue of their effective filing dates. While it is true that reexaminations are to be given priority under M.P.E.P. Sec. 708, that is not a justification for suspending prosecution of an applicant's entire portfolio of related applications. It is particularly inappropriate in this case, where all of the pending applications are to be treated as "special," and where the record for many of the applications is very well developed and ready or almost ready for final disposition.

Moreover, suspension of prosecution is highly prejudicial and fundamentally unfair to applicants. The applications in question have been pending for over eight years. Applicants did not request reexamination of their patents. This burden was placed on the PTO by third parties who are defendants in litigation involving the Harvey patents. Their questions concerning the validity of the Harvey patents could have been addressed by the Courts. In addition, prosecution of many of these applications, including INTE and MULT, has already been suspended once before. Further suspension of these cases would be highly irregular, prejudicial and unfair, especially considering their advanced state.

Furthermore, with respect to the 1987-based applications, these cases do not even raise the Section 120 priority issue that has been a point of contention in the 1981-based cases. During the past few months, replies to recent Office actions have been filed in 17 of the 1987-based cases. These replies include narrative descriptions and detailed claim charts that demonstrate, on an element-by-element basis, that the claims are fully supported by the 1987 specification. The prior art rejections have also been thoroughly addressed (significantly, many claims were not rejected based on prior art). These detailed replies should enable the Examiners to bring closure to these cases in an efficient an prompt manner.

Suspension of the 1981 INTE and MULT applications is also inappropriate. In replies filed early this year, we provided a detailed statement of the law governing the issue of Section 120 priority. Those replies also thoroughly addressed the wholly unsupported "wiggle room", "pledge" and other theories that were improperly relied on by the Examiner to sustain a blanket denial of Section 120 priority for all claims. Significantly, in both cases, we submitted expert declarations of Dr. George T. Ligler, which provide detailed explanations of how both the 1981 and 1987 specifications support the claimed subject matter. Applicants are entitled to responses to these extensive submissions which, given the overwhelming evidence offered by

way of expert declarations and otherwise, should be allowance. If the Examiner believes he can refute this evidence, then these cases are ripe for Board review. Given the advanced state of INTE and MULT, the issue of the blanket rejection of Section 120 priority would be presented to the Board by way of these cases (if agreement cannot be reached) well before similar issues in the reexaminations are presented. Therefore, continued prosecution of INTE and MULT may actually facilitate prosecution of the reexaminations.

While applicants would strongly prefer to also move forward as quickly as possible with prosecution of the other 1981-based applications, we acknowledge that if agreement cannot be reached on the blanket denial of Section 120 priority claims in INTE and MULT, it may be more efficient to obtain Board review of INTE and MULT before proceeding with further examination of the other 1981-based cases. I therefore understand the merits of formalizing the informal agreement we had concerning prosecution of the other 1981-based cases. However, in my view, any formal suspension of the remaining 1981-based cases should terminate once the issue of the blanket priority claim denial is resolved (either by agreement or through Board review). There should be no need to wait for completion of the reexamination proceedings (if they take longer).

For the foregoing reasons, I respectfully request that you reconsider your proposal to suspend prosecution of the Harvey continuations. Instead, please consider our suggestion to move forward with prosecution of the 1987-based applications (particularly those in which replies have been recently filed), and certainly the 1981-based INTE and MULT applications.

In accordance with your request, I have attached an updated chart that reflects the current status of the pending Harvey applications. Please let me know if there is anything further we can provide to advance prosecution of the applications.

Respectfully,
Joseph M. Guiliano
Reg. No. 36,539

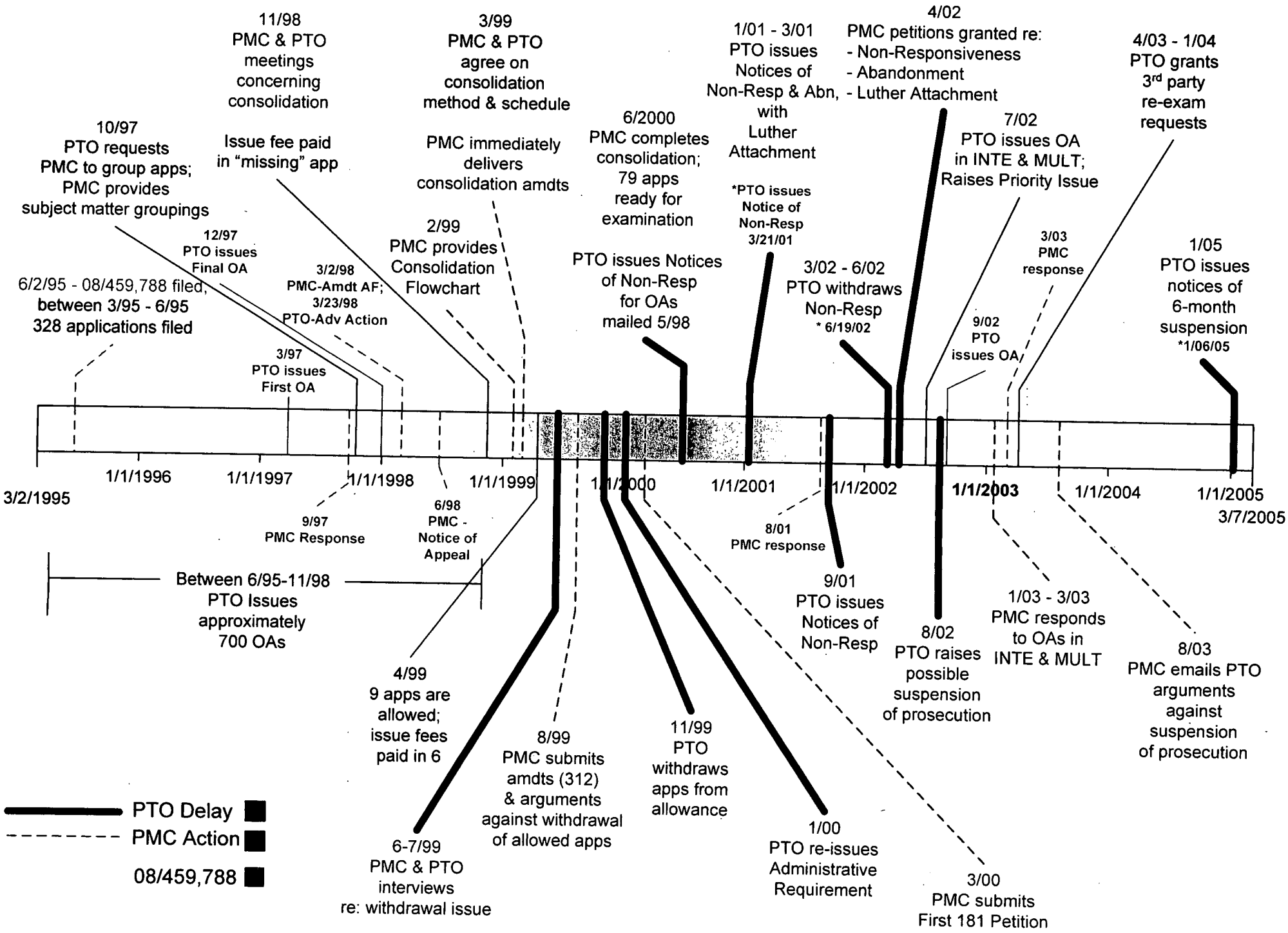
<<status.xls>>

Group	Pr.	A/B	Serial No.	Dkt. #	Status	
ADVT	87	A	08/488,383	166	Office action mailed 9/6/02	Response filed 3/6/03
		B	08/475,341	160		
ASCO	87	A	08/459,521	233		Amendment filed 7/8/02
		B	08/445,054	101		
ASRE	81	A	08/441,701	52	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/441,027	53		
BCON	81	A	08/473,484	258	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/440,837	59		
BUDG	87	A	08/446,553	104		Amendment filed 7/8/02
		B	08/445,296	105		
CHAN	87	A	08/482,857	311		Amendment filed 7/8/02
		B	08/473,997	364		
CLER	87	A	08/479,374	148	Office Action mailed 9/6/02	Response filed 3/6/03
		B	08/479,524	54		
COMB	81	A	08/466,894	276		Amendment filed 3/1/02
		B	08/487,895	191		
DATA	81	A	08/397,636	12		Amendment filed 3/8/02
		B	08/441,996	86		
	87	A	08/480,392	310	Office action mailed 9/3/02	Response filed 3/3/03
		B	08/487,155	308		
DECR	81	A	08/449,263	172	Interview Summary 4/18/02 Withdraws Notice of Non-Responsiveness	
		B	08/449,413	174		
	87	A	08/474,145	303	Office action mailed 7/31/02	Response filed 1/31/03
		B	08/485,507	304		
DIGI	87	A	08/460,711	212		Amendment filed 3/13/02
		B	08/472,462	315		
DOWN	81	A	08/470,051	268		Amendment filed 3/1/02
		B	08/469,106	266		
	87	A	08/460,770	237	Office action mailed 9/25/02	Response filed 3/25/03
		B	08/460,793	213		
EMBD	87	A	08/477,711	312		Amendment filed 3/13/02
		B	08/474,496	360		
ERRO	87	A	08/459,788	243	Office action mailed 9/5/02	Response filed 3/5/03
		B	08/451,377	70		
FANA	87	A	08/487,411	318	Office action mailed 9/5/02	Response filed 3/5/03
		B	08/474,674	319		
HEAD	81	A	08/113,329	8	Interview Summary 4/18/02 Withdraws Notice of Non-Responsiveness	
		B	08/442,165	87		

Group	Pr.	A/B	Serial No.	Dkt. #	Status	
I2CM	81	A	08/446,431	150	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/437,045	42		
I2CR	81	A	08/486,258	357	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/447,621	156		
I2GE	81	A	08/511,491	274	Interview Summary 4/18/02 Withdraws Notice of Non-Responsiveness	
		B	08/438,659	43		
	87	A	08/447,712	127	Office action mailed 9/5/02	Response filed 3/5/03
		B	08/487,556	321		
I2RE	87	A	08/477,547	329	Office action mailed 9/5/02	Response filed 3/5/03
		B	08/459,218	256		
IMAG	87	A	08/478,544	306	Office action mailed 1/8/03	Response filed 7/8/03
		B	08/460,081	240		
INTE	81	A	08/470,571	261	Office action mailed 7/17/02	Response filed 1/9/03
		B	08/471,024	299		
METE	81	A	08/452,395	65	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/483,980	66		
MICR	87	A	08/449,097	208		Amendment filed 7/8/02
		B	08/482,574	210		
MKTR	81	A	08/474,964	64	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/480,059	63		
MSG	87	A	08/459,522	238		Amendment filed 7/8/02
		B	08/458,760	217		
MULT	81	A	08/487,526	355	Office action mailed 7/30/02	Response filed 1/29/03
		B	08/437,044	47		
NAUT	81	A	08/477,805	197	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/483,269	307		
	87	A	08/444,758	114		Amendment filed 7/8/02
		B	08/447,611	137		
NAVI	81	A	08/459,216	218	Interview Summary 4/18/02 Withdraws Notice of Non-Responsiveness	
		B	08/480,383	349		
NCOM	87	A	08/460,817	223		Amendment filed 7/8/02
		B	08/460,592	225		

Group	Pr.	A/B	Serial No.	Dkt. #	Status	
NECA	87	A	08/487,397	250	Office action mailed 9/6/02	Response filed 3/6/03
		B	08/449,901	136		
NGEN	87	A	08/447,447	140	Office action mailed 9/5/02	Response filed 3/5/03
		B	08/446,124	117		
OPNS	81	A	08/442,383	74		Amendment filed 3/1/02
		B	08/488,620	354		
	87	A	08/447,908	134	Office action mailed 9/6/02	Response filed 3/6/03
		B	08/460,394	222		
POLI	87	A	08/448,251	142		Amendment filed 7/8/02
		B	08/444,787	118		
PROB	87	A	08/483,169	338		Amendment filed 3/13/02
		B	08/486,266	337		
RECO	87	A	08/447,496	121	Office action mailed 9/6/02	Response filed 3/6/03
		B	08/460,634	246		
REST	81	A	08/498,002	345	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/442,335	88		
SCHE	87	A	08/447,974	145		Amendment filed 7/8/02
		B	08/449,652	146		
SETT	81	A	08/449,523	182	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/487,649	344		
SKIP	87	A	08/487,410	314	Office action mailed 8/23/02	Response filed 2/24/03
		B	08/478,908	313		
STUD	81	A	08/474,146	186	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/483,054	195		
SWIT	81	A	08/469,612	280	Interview Summary 4/18/02 Withdraws Notice of Non-Responsiveness	
		B	08/441,577	80		
SYNC	87	A	08/448,644	163		Amendment filed 3/13/02
		B	08/459,507	232		
TELE	87	A	08/472,066	295	Office action mailed 9/6/02	Response filed 3/6/03
		B	08/479,523	365		
TRAN	81	A	08/487,536	97		Amendment filed 3/1/02
		B	08/482,573	96		
	87	A	08/445,328	112		Amendment filed 3/13/02
		B	08/447,724	131		
			08/444,788	109	Office action mailed 7/30/03	
VERI	81	A	08/448,326	123		Amendment filed 3/1/02
		B	08/447,711	153		
VIEW	81	A	08/485,283	199	Interview Summary 3/21/02 Withdraws Notice of Non-Responsiveness	
		B	08/470,476	301		
	87	A	08/479,215	358	Office action mailed 9/5/02	Response filed 3/5/03

Group	Pr.	A/B	Serial No.	Dkt. #	Status
	07	B	08/487,428	363	


11/98
PMC & PTO
meetings
concerning
consolidation
3/99
PMC & PTO
agree on
consolidation
method & schedule
1/01 - 3/01
PTO issues
Notices of
Non-Resp & Abn,
with
Luther
Attachment
4/02
PMC petitions granted re:
- Non-Responsiveness
- Abandonment
- Luther Attachment
4/03 - 1/04
PTO grants
3rd party
re-exam
requests
10/97
PTO requests
PMC to group apps;
PMC provides
subject matter groupings
Issue fee paid
in "missing" app
PMC immediately
delivers
consolidation amdts
6/2000
PMC completes
consolidation;
79 apps
ready for
examination
*PTO issues
Notice of
Non-Resp
3/21/01
7/02
PTO issues OA
in INTE & MULT;
Raises Priority Issue
12/97
PTO issues
Final OA
3/2/98
PMC-Amdt AF;
3/23/98
PTO-Adv Action
2/99
PMC provides
Consolidation
Flowchart
3/03
PMC
response
1/05
PTO issues
notices of
6-month
suspension
*1/06/05
6/2/95 - 08/459,788 filed;
between 3/95 - 6/95
328 applications filed
3/97
PTO issues
First OA
PTO issues Notices
of Non-Resp
for OAs
mailed 5/98
3/02 - 6/02
PTO withdraws
Non-Resp
* 6/19/02
9/02
PTO
issues OA
1/1/1996
1/1/1997
1/1/1998
1/1/1999
1/1/2000
1/1/2001
1/1/2002
1/1/2003
1/1/2004
1/1/2005
3/2/1995
3/7/2005
9/97
PMC Response
6/98
PMC -
Notice of
Appeal
8/01
PMC response
Between 6/95-11/98
PTO Issues
approximately
700 OAs
9/01
PTO issues
Notices of
Non-Resp
1/03 - 3/03
PMC responds
to OAs in
INTE & MULT
8/02
PTO raises
possible
suspension
of prosecution
8/03
PMC emails PTO
arguments
against
suspension
of prosecution
4/99
9 apps are
allowed;
issue fees
paid in 6
8/99
PMC submits
amdts (312)
& arguments
against withdrawal
of allowed apps
11/99
PTO
withdraws
apps from
allowance
1/00
PTO re-issues
Administrative
Requirement
3/00
PMC submits
First 181 Petition
6-7/99
PMC & PTO
interviews
re: withdrawal issue
PTO Delay
PMC Action
08/459,788

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